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C-NVA EMPLOYMENT OF MINES & BOOBY TRAPS



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UNITED STATES MILITARY ASSISTANCE COMMAND, VIETNAM
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1 June 1967

SUBJECT: Mines and Boobytraps Used by the Viet Cong in South Vietnam

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1. Forwarded for your information is a revised and enlarged edition of a handbook on Viet Cong mines and boobytraps used in South Vietnam.

2. The purpose of this publication is to save lives and preserve equipment. Mines and boobytraps have exacted a heavy toll of lives and property in Vietnam. Many of these casualties could have been prevented through proper care and caution based on a knowledge of such devices and the techniques of their employment.

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3. Though limited in scope, this booklet will help personnel in recognizing and avoiding hazards associated with mines and boobytraps. Supplementary sources of information are listed on page 1.

4. Personnel using this booklet are requested to submit comments, corrections, and additions to the ACofS, J2, ATTN: MACJ28.

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MINES AND BOOBYTRAPS EMPLOYMENT

I. INTRODUCTION.

1. PURPOSE.

This booklet provides information on the VC/NVA techniques of mine and boobytrap employment and describes some of the devices that are used.

2. SCOPE.

a. This publication covers various methods of employing land mines, water mines, explosive boobytraps and non-explosive boobytraps. Sections are included that identify specific U.S., Soviet and Chicom fuzes and mines, and typical locally fabricated mines.

b. Also included are safety and disarming procedures which emphasize the precautions a soldier must observe when handling mines and boobytraps.

3. RELATED PUBLICATIONS.

Since this booklet is limited in scope, it should be used in conjunction with FM 5-31, "Use and Installation of Boobytraps," FM 20-32, "Land Mine Warfare," and TM 9-1345-200, "Land Mines."

INITIATING ACTIONS

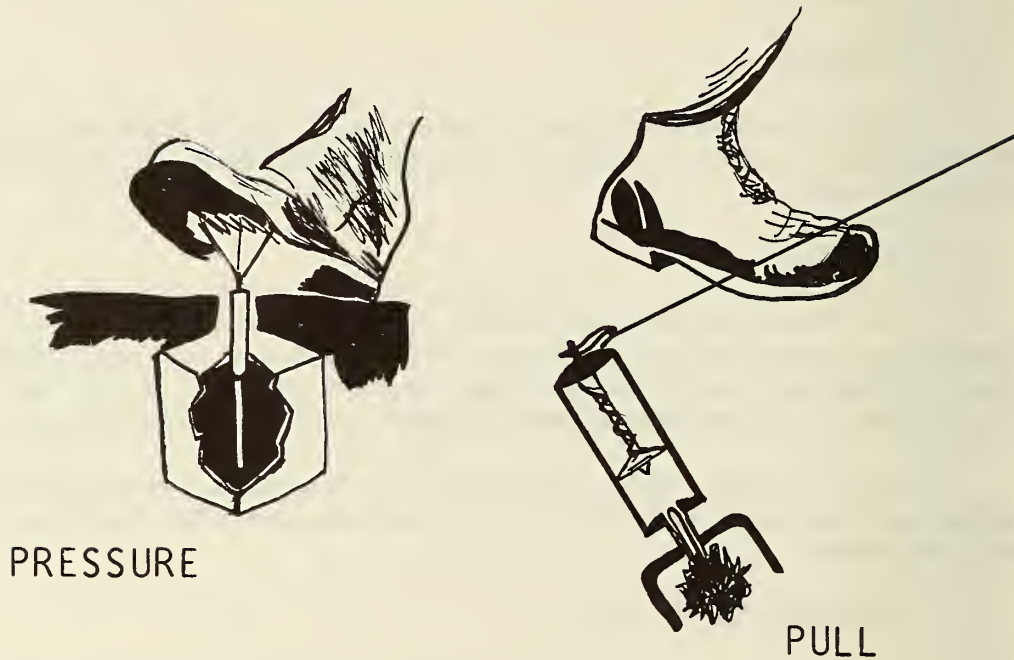


Figure 1

4. TERMINOLOGY. (See Glossary for other terms).

a. A mine is an explosive device designed to destroy or damage vehicles, ships, boats or aircraft or to wound or kill personnel. It may be detonated by the action of its victim, by the passage of time, or by controlled means.

b. A boobytrap is a device that will injure a person who disturbs an apparently harmless object or performs a presumably safe act.

c. A fuze is a mechanical device used to initiate a detonation. Fuzes are provided in many forms and sizes. Some have instantaneous action while others have some sort of a delay mechanism. There is a difference between fuze and fuse. A fuse is a burning device that transmits a flame to ignite non-electric blasting caps, firecrackers or similar items.

d. A firing device is a mechanism designed to initiate an explosive train. When fitted with a blasting cap, it may be used as a fuze. These devices are known in foreign armies as fuzes, switches or igniters.

e. A friction igniter is a device designed to fire either a detonator or a blasting cap or to ignite an attached fuse. Pulling a stripping wire causes a coated wire or friction cord to be stripped through a flash or friction compound. This action ignites the compound, which in turn fires the detonator, cap or fuse.

INITIATING ACTIONS

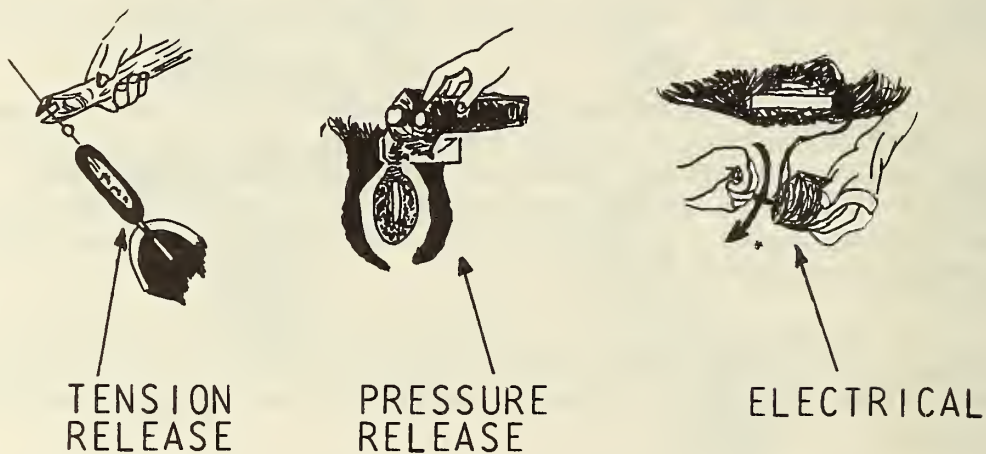


Figure 2

f. A detonator is a high explosive element in an explosive train which is used to create or transmit a shock wave to a booster or to a main charge of explosive.

g. The initiating action depends on the design of the fuze. Most fuzes are designed to be initiated by one of the following actions (figures 1,2):

(1) Pressure. The pressure of a man's foot or the wheel or tread of a vehicle causes the fuze to function.

(2) Pressure release. Removing a restraining weight allows the fuze to function.

(3) Pull. A pull on a wire, called a trip wire, attached to the fuze initiates the fuze action.

(4) Tension release. Cutting a trip wire releases the tension needed to keep the fuze from functioning.

(5) Pressure/Pull. Either a pressure or a pull will initiate the fuze action.

(6) Electrical. Closing an electrical circuit initiates the fuze action.

II. DOCTRINE AND RESPONSIBILITIES.

Policies governing the use of land mine warfare.

NVA mine warfare doctrine closely parallels that of the Chinese Communist Army, although it is heavily influenced by past guerrilla warfare experience in the RVN as well as that acquired during the French-Vietnamese War. Extensive enemy minefields have not been encountered in RVN. Present practice of the VC/NVA is to make use of numerous isolated mines and groups of mines for their nuisance value and to create casualties, fear and overcautiousness.

It is evident in RVN that VC/NVA commanders at the lowest level of line units have the authority to install or remove mines as necessary for offensive and defensive purposes. Engineer units have been trained to install large minefields if this type of installation is ever required in RVN.

III. LAND MINES.

1. GENERAL.

a. A mine is a contained explosive or other material designed to destroy or damage vehicles, ships, boats, or aircraft, or to wound, kill, or otherwise incapacitate personnel. It may be detonated by the action of its victim, by the passage of time, or by controlled means.

b. A minefield is a type of artificial obstacle often included in a barrier plan. Mines assist in protecting friendly frontal, flank, and rear areas from hostile ground attack and from landings by enemy airborne and waterborne forces. In guerrilla infested regions, they help protect positions, areas, and installations from infiltrations and penetrations.

c. There are two general classes of land mines; antipersonnel

and antivehicular. The methods of employment may differ somewhat for the two, but many of the same dangers exist in the case of both types of mines. In this section the land mine techniques will be covered. Specific mines are described in section V.

2. TYPICAL METHODS OF ACTUATION.

a. Trip wires. Trip wires may be used with any type of mine or improvised explosive, either buried or above the ground. Wires can be set up with pull release devices, tension release devices or friction igniters. Trip wires are usually well concealed and difficult to detect. They may be mixed with dummy wires to confuse detection teams and may have both ends boobytrapped. Trip wires normally are used with devices that have a zero time delay element in the fuze, which produces an instantaneous explosion. To avoid casualties during disarming, do not cut any wires until both ends have been checked for boobytraps.

b. Electrical detonation. The VC/NVA often use command detonated mines. One method requires a man to be concealed some distance from the explosive with a battery pack or hand held generator which is connected by wires to the mine. When troops or vehicles are in a position where the mine will do the most damage, the VC detonates it. It is important to check trees, bushes and the edges of roads for wires. If wires are found, they should be cut one at a time. Watch out for electrical wires used as trip wires and connected to tension release devices. When such wires are cut, boobytraps may explode.

MINED DIRT ROAD OR TRAIL

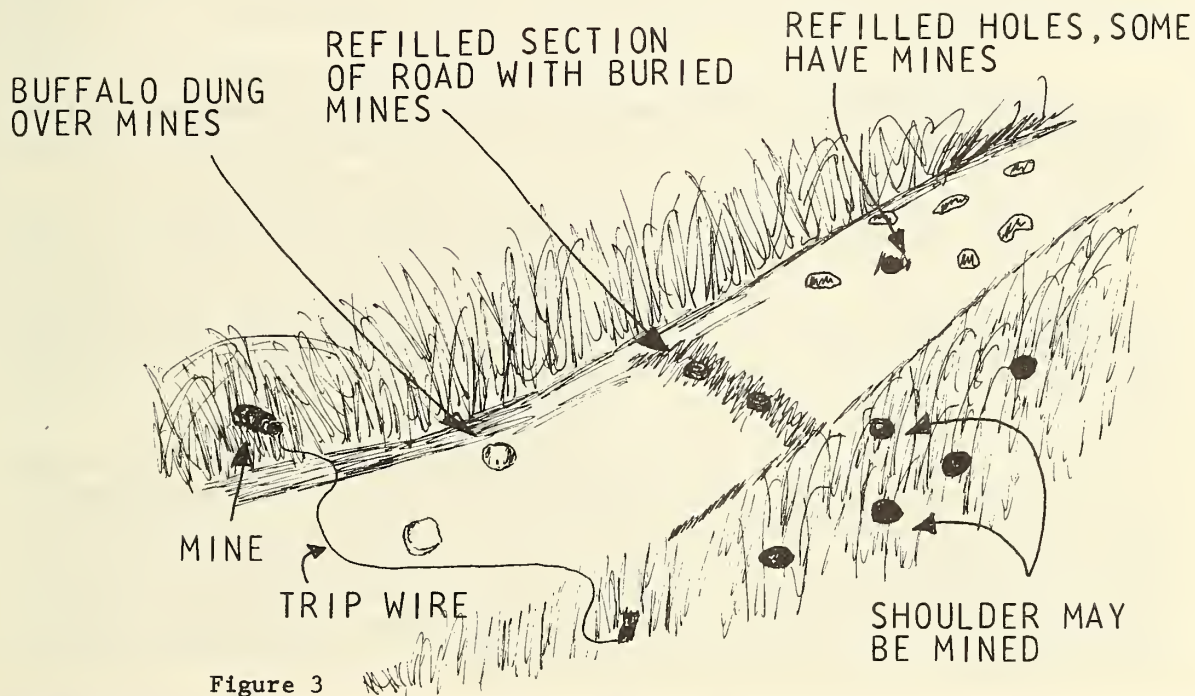


Figure 3

c. Pull wire. This is another command detonation device that is commonly used. A pull wire is connected to a pull release device or to a friction igniter, and a VC conceals himself at the other end. When a target is in position, the VC pulls the wire and detonates the mine. The same precautions apply here as apply to the trip wire.

d. Pressure devices. These devices are commonly employed in antivehicular and smaller AP mines. Mines using these devices can be buried, which makes detection difficult. Mine clearing parties must conduct meter by meter sweeps of the area as prescribed in FM 20-32.

3. METHODS OF EMPLOYMENT ON DIRT ROADS AND TRAILS. (figure 3)

a. Dirt roads and trails are easily mined, since the traces normally can be completely eliminated. In instances where traces cannot be eliminated, the VC use a number of tricks in addition to the normal mine laying techniques used by both sides.

b. One unusual technique takes advantage of the mine detection personnel's carelessness. The VC dig up the road and leave, a normal method of cutting lines of communications. Friendly troops fill in the dug up sections and the VC return to lay mines in the refilled areas. These areas must be checked day after day even though nothing is found. The VC expect you to assume an area is clean after it has been checked and to become careless and not recheck it.

c. The VC may dig holes in the road, lay mines in a few of them, and refill them with dirt. After the mine detecting teams check dozens of holes and find nothing in most of them, the next hole may be expected also to be empty and may not be checked. That carelessness is what the VC expect, for they have probably mined that particular hole, hoping you will ignore it.

d. Some mines may be planted and then covered with straw, grass, dung, or any natural looking substance. The way to avoid casualties is to check everything.

e. Remember, the above tricks are used in addition to the normal methods of mine laying used by most armies. The best method of detecting the mines can be summed up as follows:

(1) Check all places newly refilled with soil, covered with straw or grass, littered with dung, or any suspicious looking spot.

(2) Do not depend solely on a mine detector. The detector works on the principle of a magnetic field and has a limited range. If the batteries are weak or the detector malfunctions, the mine will not be found. Then, too, the enemy may employ non-metallic mines. To counter this tactic, the team should gingerly probe the suspected area with a metal rod or bayonet in addition to using the detector. The probing should be done at an angle to the ground to lessen chances of setting the mine off. Proper mine clearing procedures are prescribed in FM 20-32.

MINED HARD SURFACED ROAD

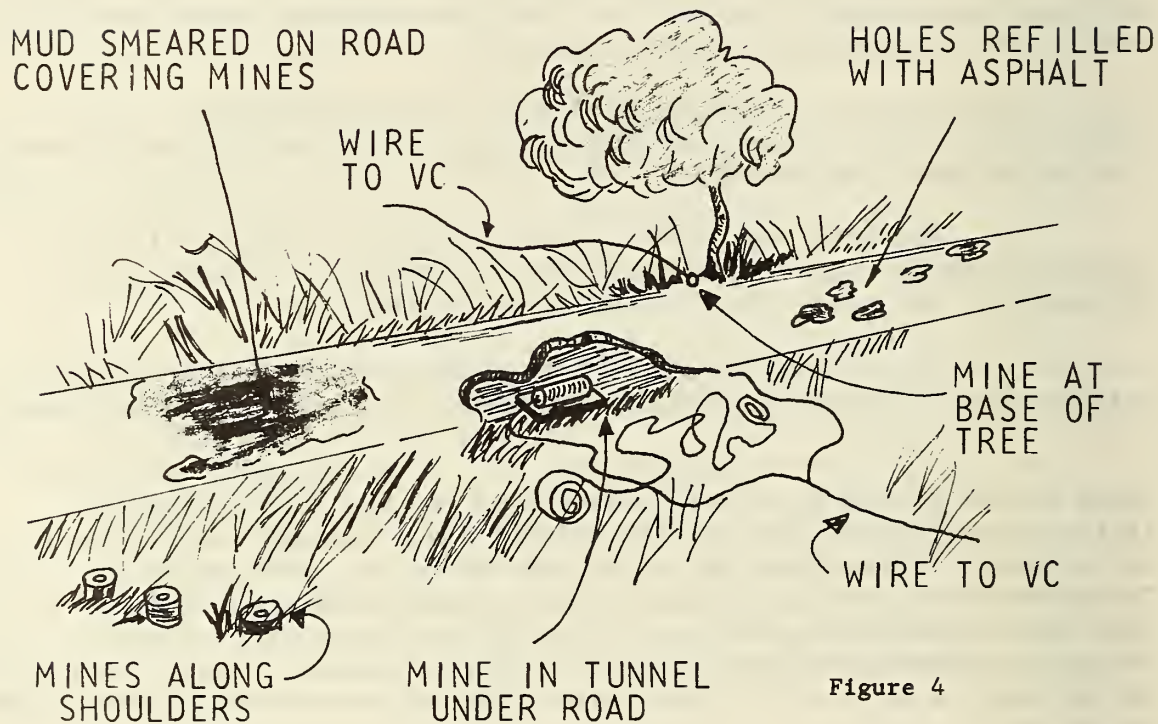


Figure 4

(3) Be patient and continually check and recheck possible mine locations. Do not fall into the trap of assuming there is no mine in a hole because it wasn't there yesterday. The VC want you to do this.

(4) Work with the local people who may be able to provide information on possible VC mine laying operations.

4. METHODS OF EMPLOYMENT ON HARD SURFACED ROADS. (figure 4)

a. Hard surfaced roads present a more difficult problem of concealing mines than do dirt roads. The VC may come up with some very effective ways to trick mine detecting teams.

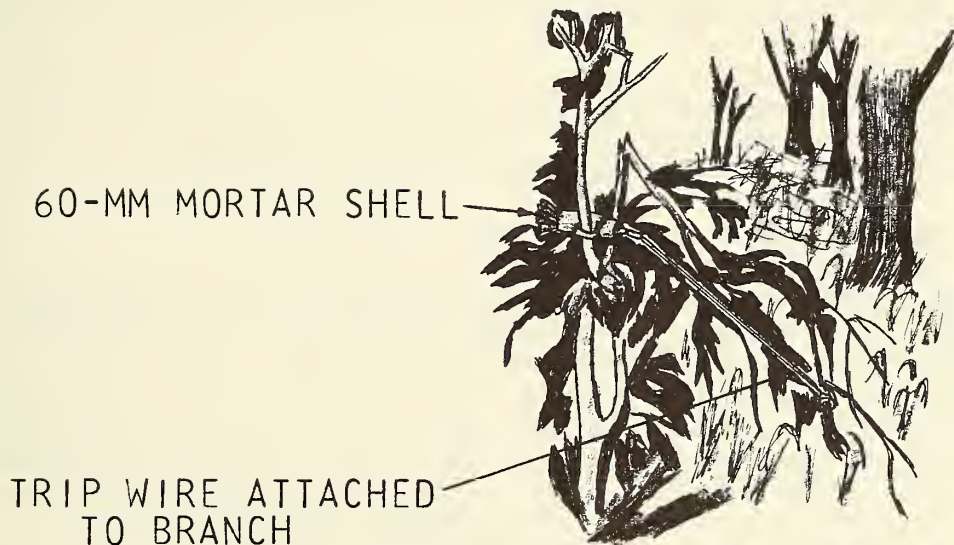
b. The VC tunnel under the road from the shoulder and plant a mine. The VC prepares the mine for command detonation, usually electrical, and carefully fills in the tunnel. Traces of this burrowing activity can be eliminated because of the dirt shoulder. The leads to the mine are concealed and generally terminate in a place where a VC can hide while waiting for his victim. This setup is a very difficult one to detect and requires careful inspection of the shoulders of the road for wires or traces of digging. If wires are found, they should be checked and cut. Then the mine must be dug up and disarmed or destroyed.

c. Tricks are employed which are similar to those used on dirt roads. One of these includes digging up sections of the road. After these areas are filled in, the VC return and lay mines in a few of them. This is the same tactic used on dirt roads and is countered in the same way by constant checking.

d. The VC smear the road with mud. This condition forces a mine detecting team to check the area carefully. The smearing may go on for several days until one day the VC emplaces mines in the muddied sections. The mine detecting teams, having checked the areas before with no results, may become a little careless and miss these mines. Again, this carelessness is what the VC expect. The smeared areas must be carefully checked each time troops must cross them.

e. Another trick is to dig up the road, lay the mine, and refill the hole with asphalt. A spot usually remains that contrasts with the surrounding asphalt. To avoid detection, the VC use a tire to mark across the patch and blend it in with the road surface. To counter this tactic, the detection team must be alert for any signs of road repair. Each spot must be carefully checked with a detector and a probe.

f. The soft earth shoulders of surfaced roads are often mined. This tactic is easily accomplished and provides an effective trap for unwary troops. This method is not limited to hard surfaced roads but also may be used on dirt roads and trails. Roadside mining is used most often in ambush sites where the vehicles and men are to be driven off the road by fire. Heavy casualties have resulted in this type of



TREE MOUNTED ANTI-PERSONNEL MINE

Figure 5

operation. Again, the watchword is caution and thoroughness when clearing the road.

g. These methods may be countered with the same techniques used in countering dirt road mining. Successful clearing operations require patience and thoroughness. The procedures prescribed in FM 20-32 should be used to insure maximum effectiveness and safety.

5. OTHER TECHNIQUES OF EMPLOYMENT. (figure 5)

a. The VC use various methods to deceive their victims and to increase the effectiveness of the mines employed. These tricks are limited only by the user's ingenuity.

b. To lure soldiers into a trap, it has been common practice in other wars to use various items as bait. The VC also use this technique. Likely looking items will be left in areas that are mined and booby-trapped. These items may be weapons, VC flags, documents, uniforms, or just about anything that troops would be interested in from a souvenir, personal comfort, or intelligence standpoint. When a person goes to examine them, he is blown to bits.

c. The VC employ mines above the ground along land and water routes used by the enemy. This is a particularly favored and effective method of using mines improvised from artillery or mortar ammunition. The mines may be placed in rotten tree trunks, on sticks, next to or in termite mounds, at the base of or in the branches of trees, in bushes,

or in any concealment that affords a "sweeping" action for the fragments. In high grass areas the VC may just lay the mines on the ground with no other camouflage.

d. Mines may be laid on the bottoms of stream beds for trip wire initiation, pressure initiation, or command detonation. These mines may be placed at fords or wherever troops could be expected to wade through the water.

e. The VC also employ mines in their defensive positions. The DH-10, a version of the US "Claymore" mine, is particularly effective as a defensive mine. The DH-10 mine, described later in this book, may be used against troops moving along roads, trails, or assaulting a position. The mine is most effective when employed along restricted paths. It may be rigged with a trip wire, but normally it is electrically detonated by a concealed VC.

6. LIKELY PLACES OF EMPLOYMENT.

a. This paragraph summarizes places where mines are most likely to be used, although you must expect the VC to employ mines anywhere.

b. Generally, mines are used wherever troops can be expected to bunch up, slow down, or present a good target. Such areas are bridges, curves in roads or canals, single track roads or trails, junctions, hill-sides, huts, and likely rest areas. Any place that is a good ambush site is usually a good mine site, and mines are often employed with ambushes.

METHODS OF VC MINE MARKING

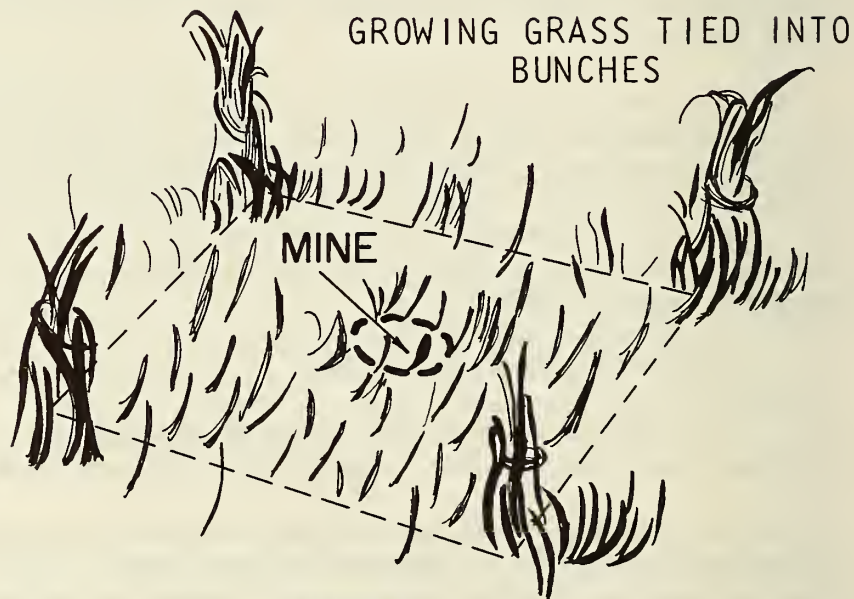


Figure 6

Since many of the larger mines are command detonated, the VC many times need a place of cover and concealment for the person who will initiate the mine. If an ambush is to be employed with mines, then the ambushers need positions affording protection from fragments.

7. VIET CONG METHODS OF MARKING MINES (figures 6, 7).

a. Not much is known about the VC methods of telling their own troops where mines are located. However, there are two methods that have been reported and are given here as examples. It is emphasized that these may not apply country-wide.

b. In one tactical zone, the VC tie growing grass into bunches at each corner of a 2 meter square. The mine is located in the center of the square.

c. Along roads and trails, sticks or stones may be used to mark mine fields. For example, in one tactical zone a stick broken at a right angle and lying across the road may mean a VC boobytrap or mine 200-400 meters ahead. A stick or length of bamboo lying parallel to the edge of the road or trail may indicate a clear route. Three sticks or stones, one at each side of the road and one in the center, may mean that the road should not be used.

METHODS OF VC MINE MARKING

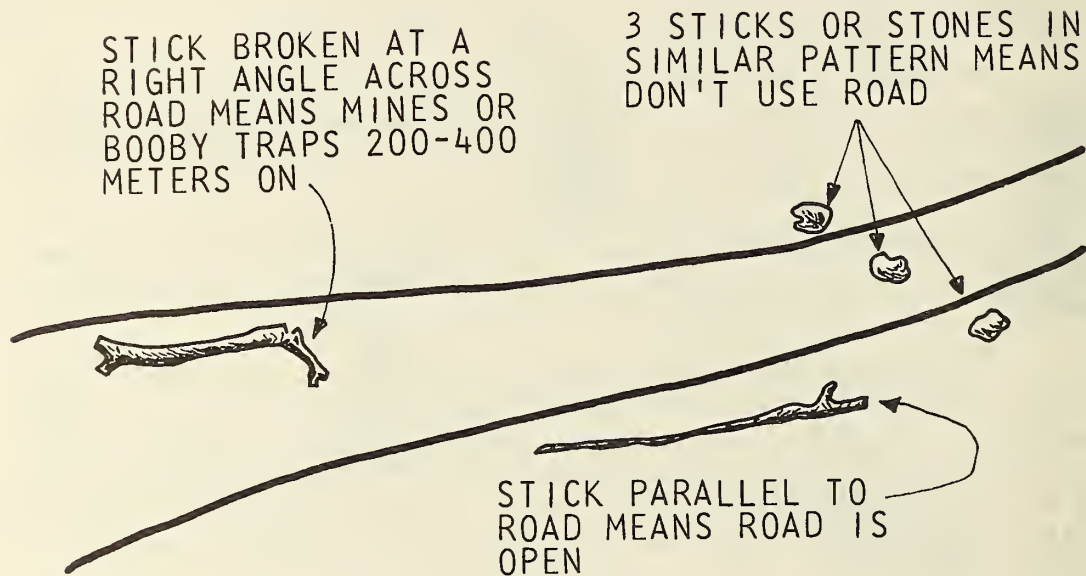


Figure 7

1. GENERAL.

The VC have used water mines against the river fleet with a large measure of success. The mines have been locally fabricated, but they are very effective. Typical water mines are described in Section V.

2. TYPICAL METHODS OF INITIATING.

Water mines are exploded almost exclusively by command detonation, either electrically or by pull wire. This method requires electrical or pull wires running to the shore where a concealed man explodes the mine when a target passes.

3. METHODS OF EMPLOYMENT (figures 8-10).

a. Water mines have been used in canals and rivers. The techniques are similar in both applications.

b. The VC tie mines and explosives to tree trunks or put them into boats and place these items in the middle of the waterway. When a target passes by, the mine is exploded. The boat trick is particularly effective since it will lure someone in our friendly forces craft to investigate. When the tree trunks are employed, some form of camouflage, such as duckweed, is needed. The command detonation technique makes it necessary to check suspicious looking objects from a distance before approaching and to spot the wires leading to the shore.

WATER MINE

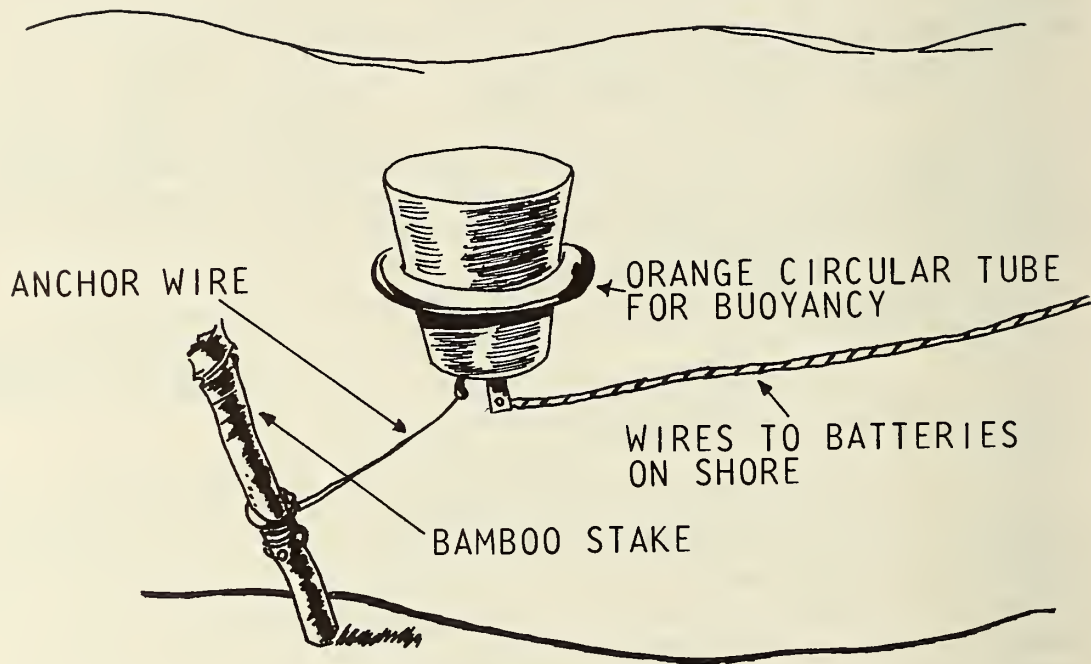


Figure 8

c. The VC have been known to plant command detonated mines in the bottoms of shallow waterways, such as canals that are less than a meter in depth, even at high water. Friendly forces should be on the lookout for wires running to the shore which enable the VC to explode a mine when a vessel passes.

d. In deep channels, mines are set up at varying depths to best handle different vessels. Some of the mines may be controlled from the shore, while others are set at given depths. The mines can also be set up in such a manner that VC on the river banks can position them in the paths of targets.

e. Most water mines appear to have one thing in common; the detonation is usually initiated electrically. Conventional mine sweeping operations will detect these mines, but there is the danger that during the course of the operation a mine will be detonated by a VC on the river bank. Using information from local people is the best way to detect and to make provisions to eliminate a mine threat.

4. LIKELY PLACES OF EMPLOYMENT.

a. Water mine locations are similar to those for land mines. The VC seek to place water mines where vessels must slow down, bunch up, or stop.

b. The mines may be found at bends, narrow straits, and in mid-channel. Since some water mines can be positioned by the operator on the shore, they may be located anywhere in a channel. Since water mines are often used with ambushes, likely ambush sites are also likely mine sites.

WATER MINE

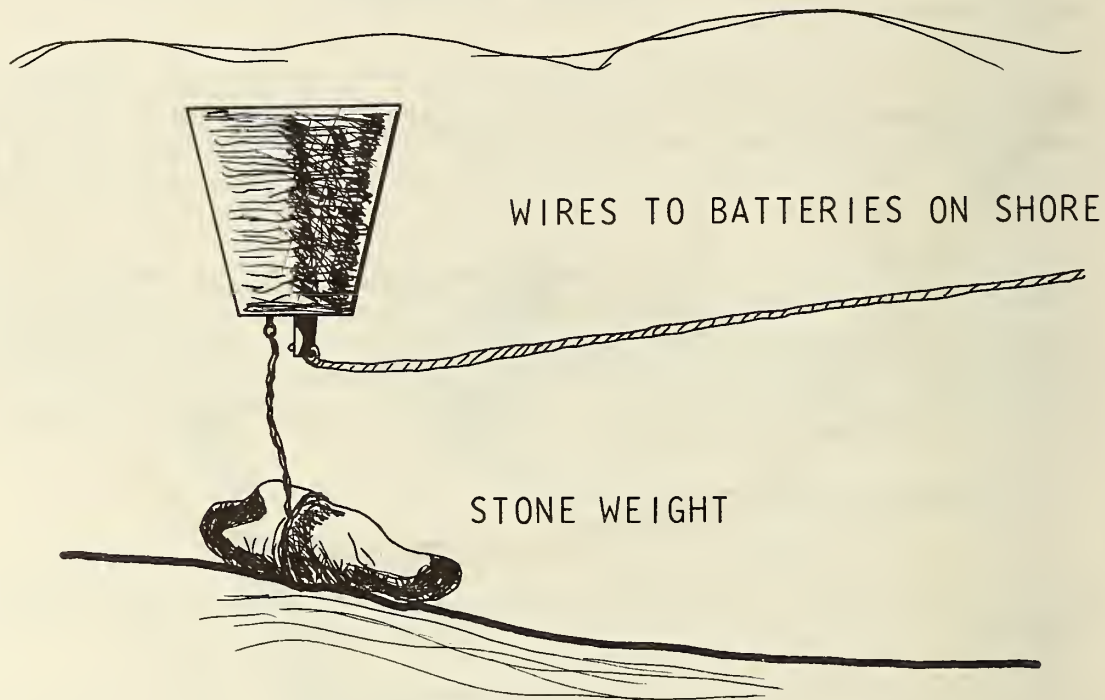
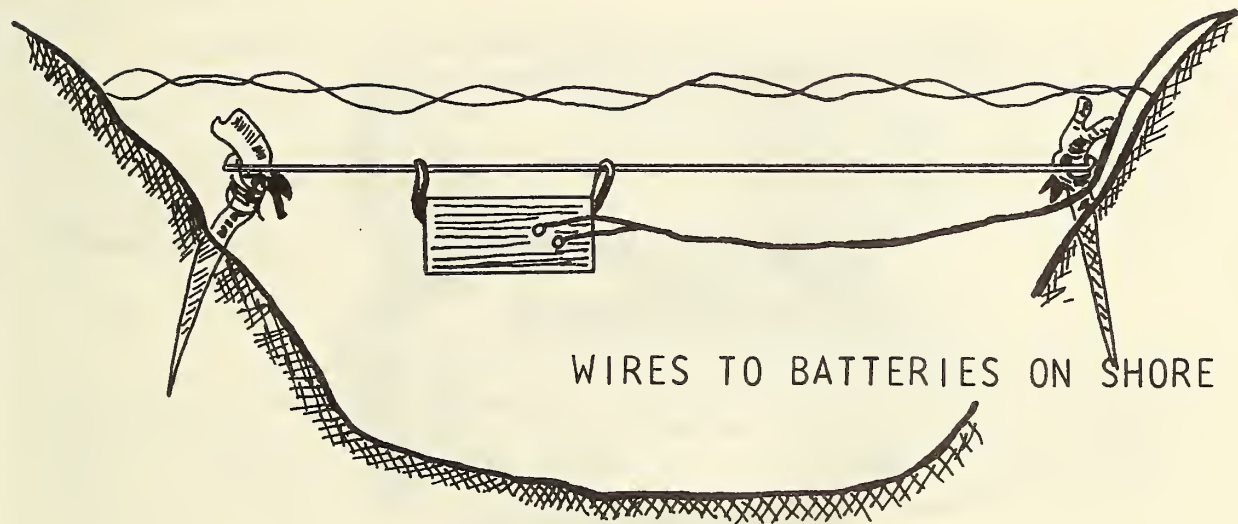


Figure 9

WATER MINE



MINE CAN BE MOVED BACK AND FORTH INTO
PATH OF BOAT

Figure 10

BOOBYTRAPPING ONE MINE TO ANOTHER

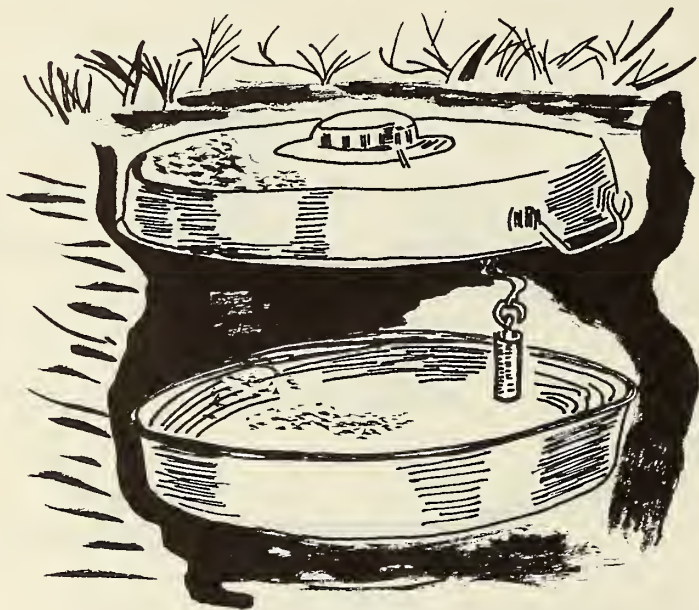


Figure 11

V. BOOBYTRAPS.

1. GENERAL.

Boobytraps have been used from the earliest days of recorded history. Ranging from a simple hole in the ground to a complicated explosive device, the boobytrap is an effective way to cause enemy casualties and hamper enemy operations at a low cost to yourself. The effective use of boobytraps also undermines the morale of enemy forces. This section is intended to orient the soldier on the potential uses of explosive and non-explosive boobytraps encountered in Vietnam.

2. EXPLOSIVE BOOBYTRAP EMPLOYMENT.

a. Explosive boobytraps are extensively employed by the VC in all phases of their operations, from combat to sabotage. The traps vary from the simplest devices to fairly complicated items. Explosive boobytraps are initiated in the same manner as mines, using the same firing devices and fuzes. The tricks used to lure victims into mined areas are also used to lure them into boobytrapped areas.

b. One of the most common uses of explosive boobytraps is with mines. When mines are being cleared, each one must be checked for boobytraps. This involves searching for various devices that could possibly detonate a mine and that are in addition to the main fuzes (figures 11, 12).

MULTIPLE BOOBYTRAPPED MINE

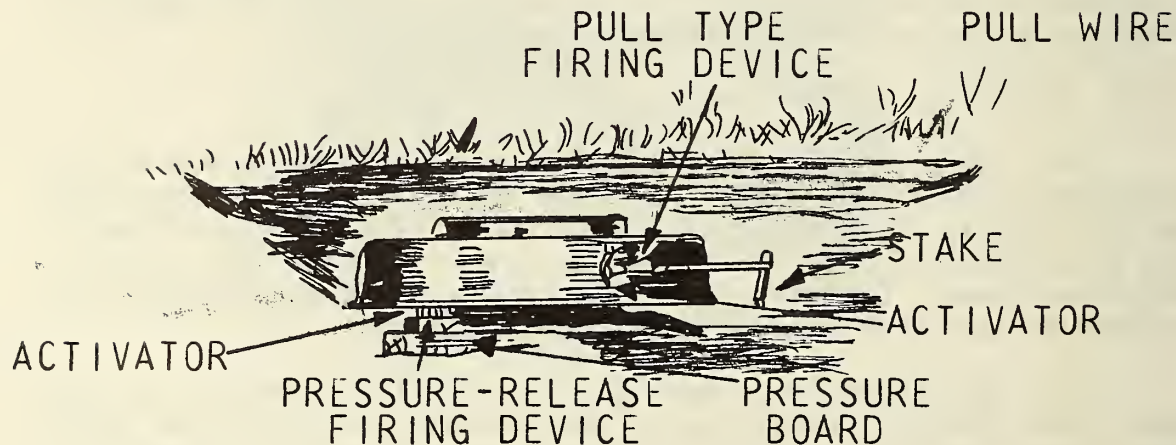


Figure 12

c. Items such as weapons, uniforms, dead bodies, binoculars, flags, vehicles, and a host of other objects may be rigged with explosive boobytraps (figures 15-18).

d. Buildings of all types offer the enemy unlimited boobytrapping opportunities. Entranceways, furniture, windows, floorboards, plumbing, and electrical circuits can be effectively boobytrapped.

e. Another type of boobytrap is the device that looks innocent but is deadly. Such devices take the forms of fountain pens, cigarette lighters, packages, and other ordinary items. These devices have been extensively used in the towns and cities. Two such devices are described in Section V.

f. Roads, trails, and paths offer excellent locations for boobytraps (figures 17-19). The boobytraps are usually attached to obstacles such as rocks or tree limbs. Troops in a hurry may brush by these, or hastily remove them, without checking for trip wires or pressure release devices. There may be dummy traps among the real ones which may annoy the the average soldier to the point of becoming reckless.

g. Areas containing supplies are easily boobytrapped (figures 20-22). All caches of weapons, food, ammunition, and other materiel must be carefully searched for boobytraps before they are moved or destroyed.

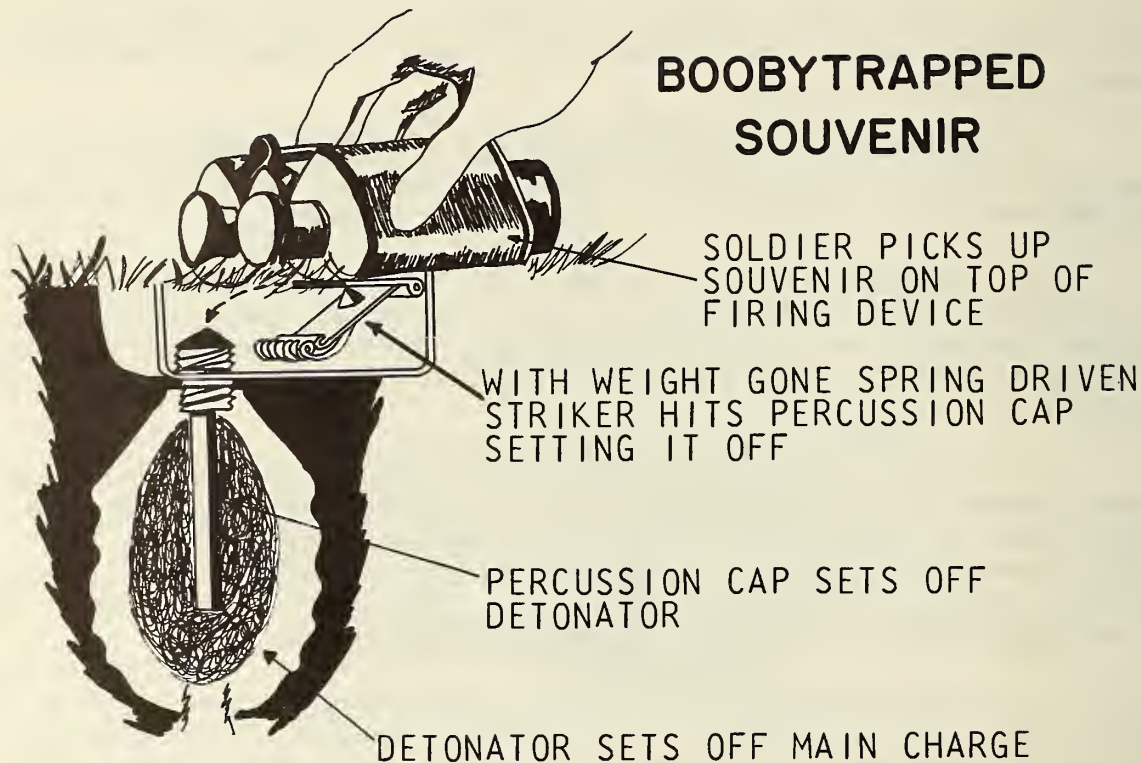


Figure 13

h. The number and types of explosive boobytraps are unlimited. As boobytraps are dependent only on the user's ingenuity, some tricky devices are encountered. To avoid hazards, be patient and thorough. A hasty approach will lead to trouble. Proper procedures are prescribed in FM5-31.

3. NON-EXPLOSIVE BOOBYTRAP EMPLOYMENT.

a. Non-explosive boobytraps will generally be employed in a manner similar to mines. The locations are the same, but these non-explosive traps are primarily aimed at personnel. Non-explosive boobytraps take various forms, but all take advantage of local materials and natural camouflage. Specific types are illustrated in Section V.

b. Non-explosive boobytraps are often employed with mines and at ambush sites. Such boobytraps provide a means of hindering the progress of troops moving along roads and trails. Muddy roads and trails provide the necessary camouflage for pits, and heavy vegetation will cover a multitude of traps. Open, grassy areas are not immune as spiked plates and pits may be used. Stream beds are often boobytrapped at fords or wherever troops are likely to pass.

c. As with all boobytraps, the VC expect you to be in a hurry and not take the time to carefully check for these traps. The VC are extremely good at disguising their traps, and only a thorough, patient check of your route will reveal the traps. Indicators to watch for are shiny metal, flat areas, differences in color of vegetation, trip wires, and anything that appears to be out of place. Again, it is emphasized that the best way to avoid these hazards is to obtain information from the local people who generally know where the traps are located.

FIREWOOD BOOBYTRAP

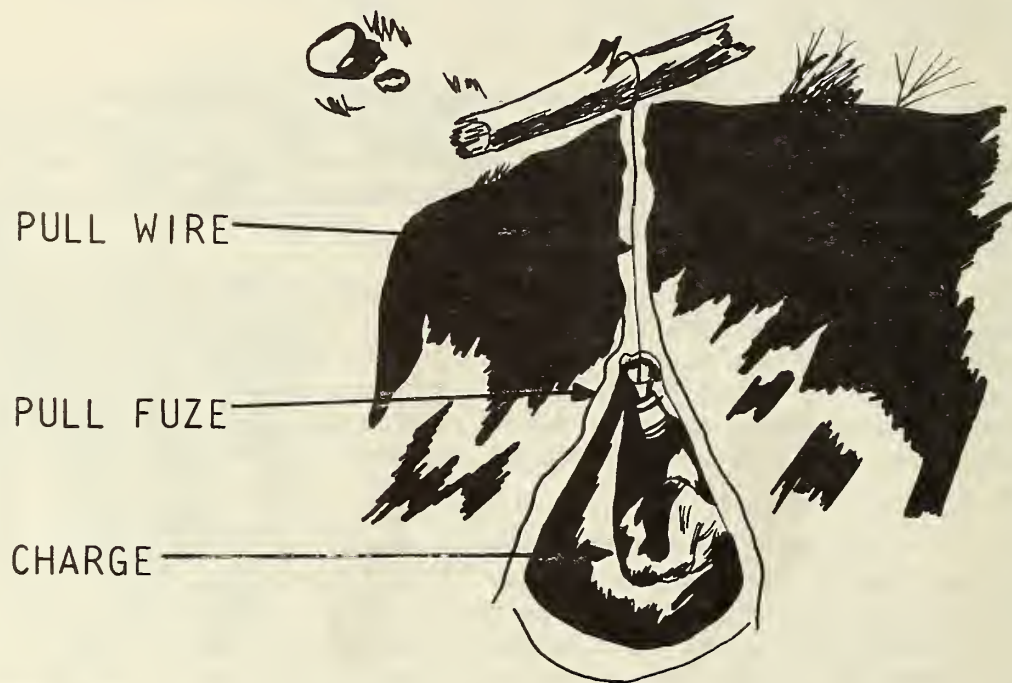
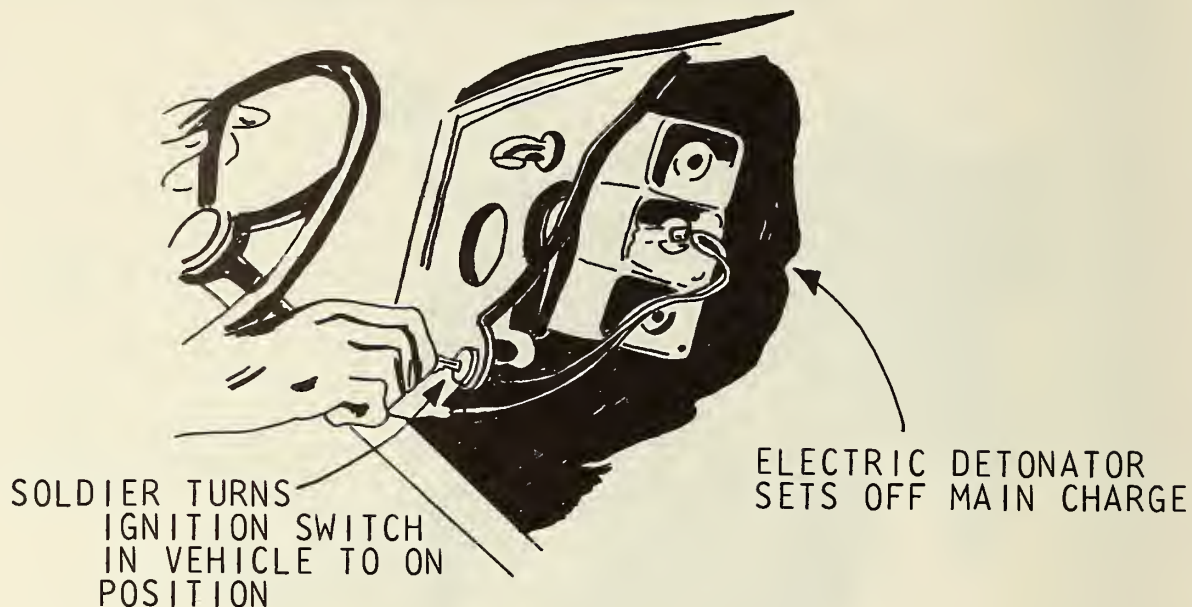


Figure 14

WAR TROPHY BOOBYTRAP



Figure 15



IGNITION BOOBYTRAP

Figure 16

OBSTACLE BOOBYTRAP

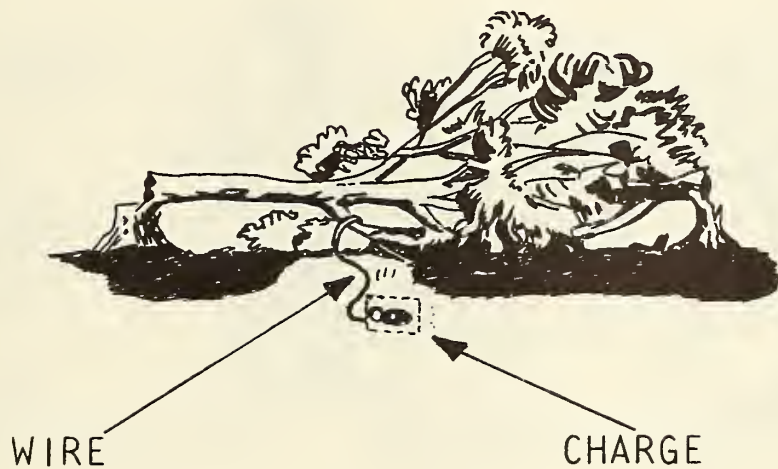


Figure 17

ROADSIDE BOOBYTRAP

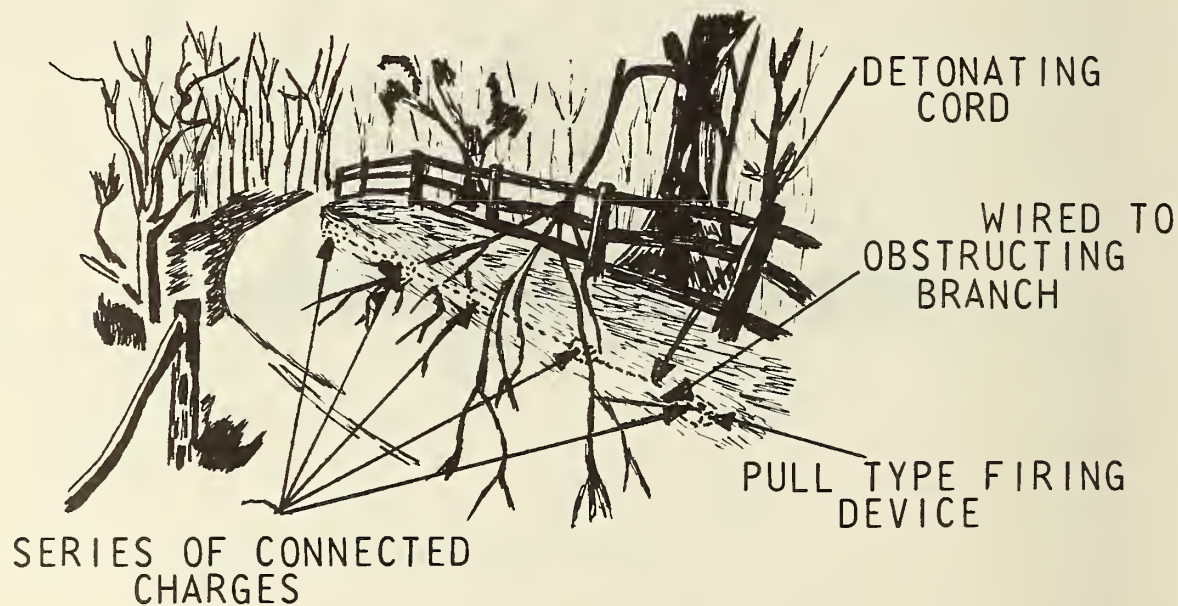


Figure 18

WHEEL-TRACK BOOBYTRAP

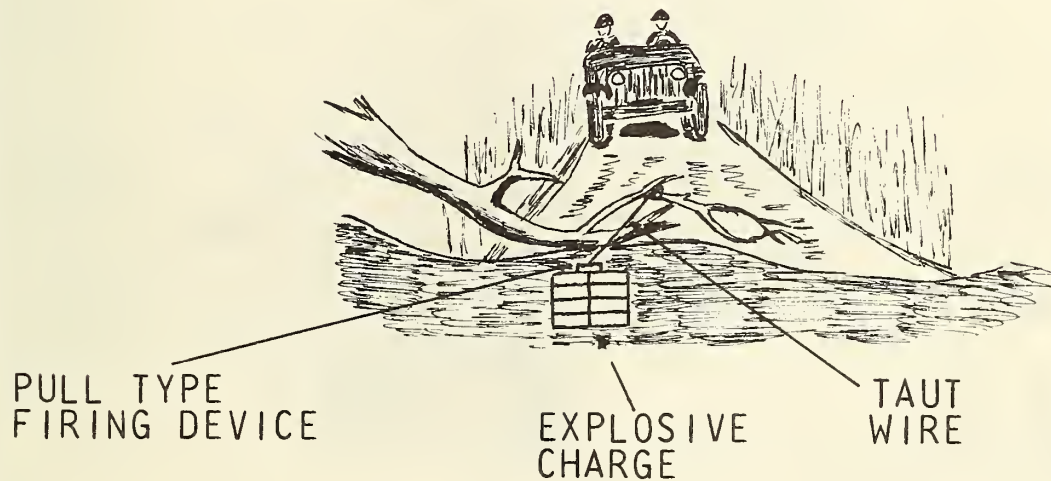


Figure 19

BOOBYTRAPPING SUPPLIES

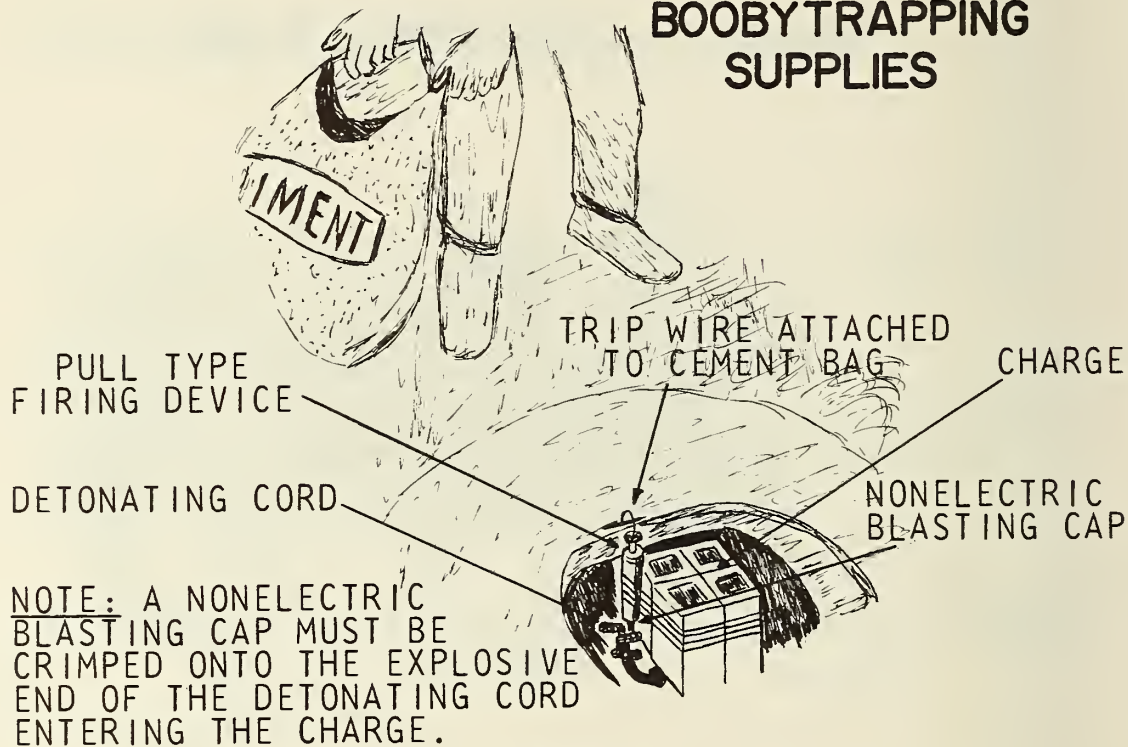
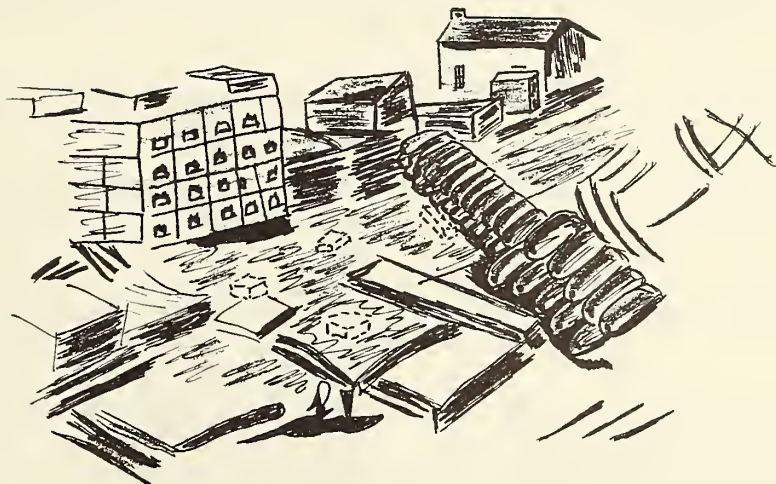


Figure 20



BOOBYTRAPPING AN AMMUNITION DUMP

Figure 21

SUPPLY DUMP BOOBYTRAP

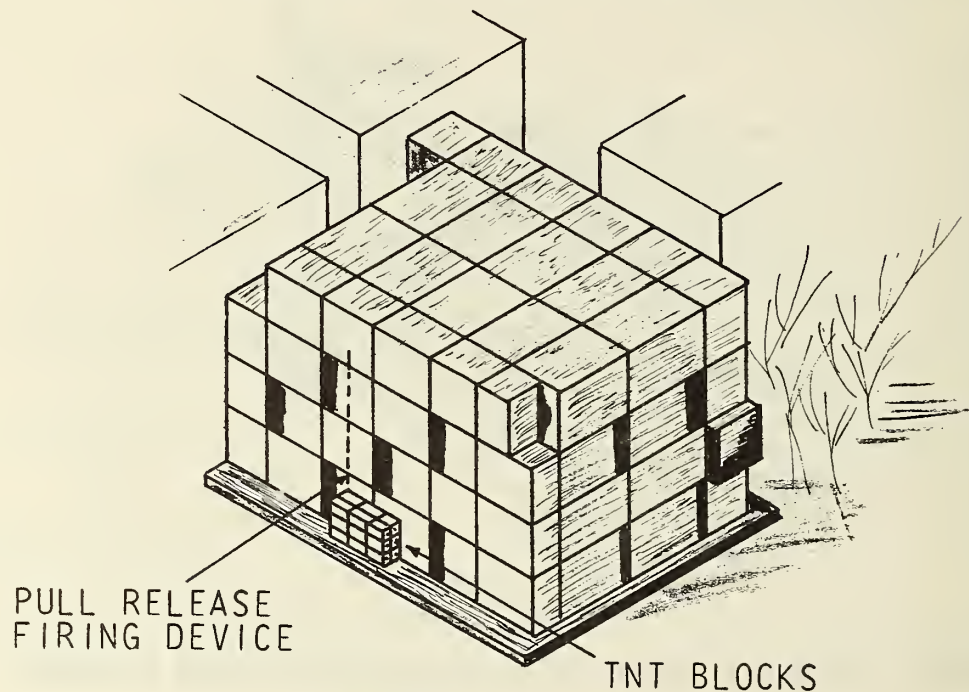


Figure 22

4. GENERAL PRECAUTIONS.

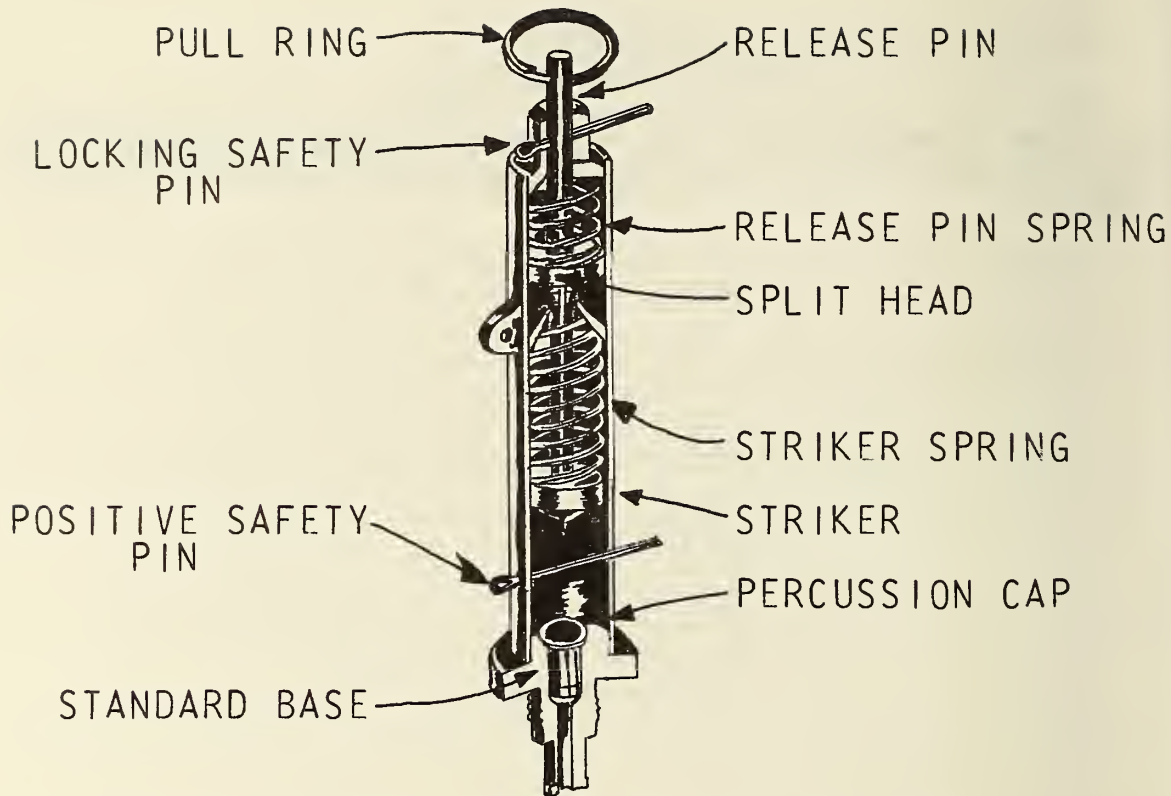
- a. Do not be in too much of a hurry, if at all possible. As the name "boobytraps" implies, they are used to catch the careless soldier.
- b. When sweeping an area, remember that both explosive and non-explosive boobytraps may be employed with mines.
- c. Be suspicious of all objects that appear to be loose. When checking captured factories, supply dumps, or materiel, watch for boobytraps.
- d. Before cutting taut trip wires, check both ends for boobytrapping. One end may be attached to a tension release device. Before disturbing any object, check it for wires and pressure release devices.
- e. If you find explosive boobytraps, destroy them in place or mark them and leave them alone. Unless it is absolutely necessary for you to move them, let explosive ordnance disposal personnel take care of removal and disposal.
- f. Do not take anything for granted. An object may appear to be innocent, but if it is found in suspicious circumstances, expect a trap.
- g. Boobytraps are dangerous, effective weapons, but if you show a healthy respect for them and handle them properly, you should not be a casualty.

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V. SPECIFIC FUZES, MINES AND BOOBYTRAPS

This section is intended to provide a means of identifying specific mines and boobytraps and to cover some basic disarming procedures. Further information on U.S. firing devices and mines is given in TM 9-1345-200.



US FIRING DEVICE, PULL TYPE, MI

U.S. FIRING DEVICE, PULL TYPE, M1

This firing device has been employed by friendly forces and is in the hands of the VC. It is especially useful in antipersonnel mines and boobytraps.

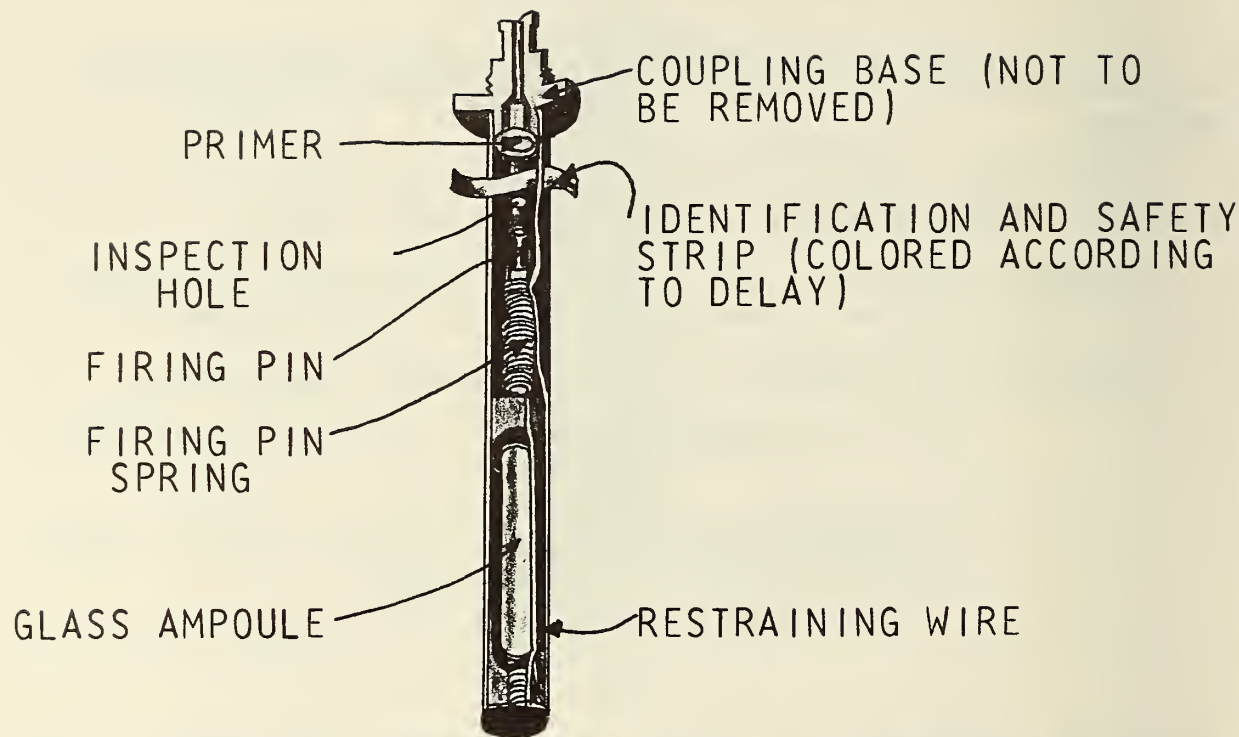
FUNCTIONING. A pull on the ring causes the split head of the striker to compress and to be released. This action fires the device.

DISARMING. Insert the positive and locking safety pins. Disconnect any trip wires. Unscrew the base for destruction or safe storage.

CAUTION. Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type.....	Pull
Operating Pull.....	1.35-2.30 kg (3-5 Pounds)
Material of Case.....	Metal
Color.....	OD



US FIRING DEVICE, DELAY TYPE, MI

U.S. FIRING DEVICE, DELAY TYPE, M1

This firing device is employed in this theatre by the RVNAF and may be in the hands of the VC.

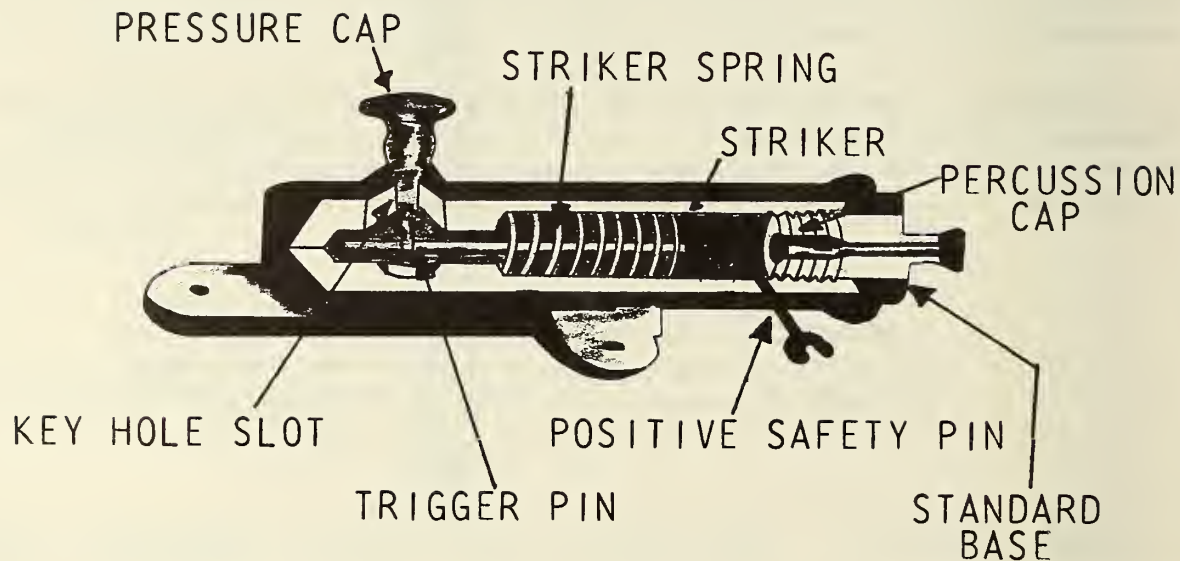
FUNCTIONING. A pressure of 2.30 kg (5 pounds) or more will crush the glass vial of acid that is contained inside the fuze. The acid eats away the restraining wire, causing the striker to hit and detonate the percussion cap. The color of the safety strip indicates the time of delay. The device may have a 4 minute to 9 day delay.

DISARMING. There is no safe way to disarm this device. If absolutely necessary, insert a safety pin or nail through the inspection holes and destroy in place or call explosive ordnance disposal personnel for assistance.

CHARACTERISTICS

Type.....	Chemical delay
Material of Case.....	Upper half-Copper
	Lower half-Brass
Color.....	Unpainted except for safety tab.

U.S. FIRING DEVICE PRESSURE TYPE, MIAI



U.S. FIRING DEVICE, PRESSURE TYPE, M1A1

The M1A1 has been frequently used by RVNAF and may also be in the hands of the VC. It may be used to detonate antipersonnel mines and other explosive charges, including boobytraps.

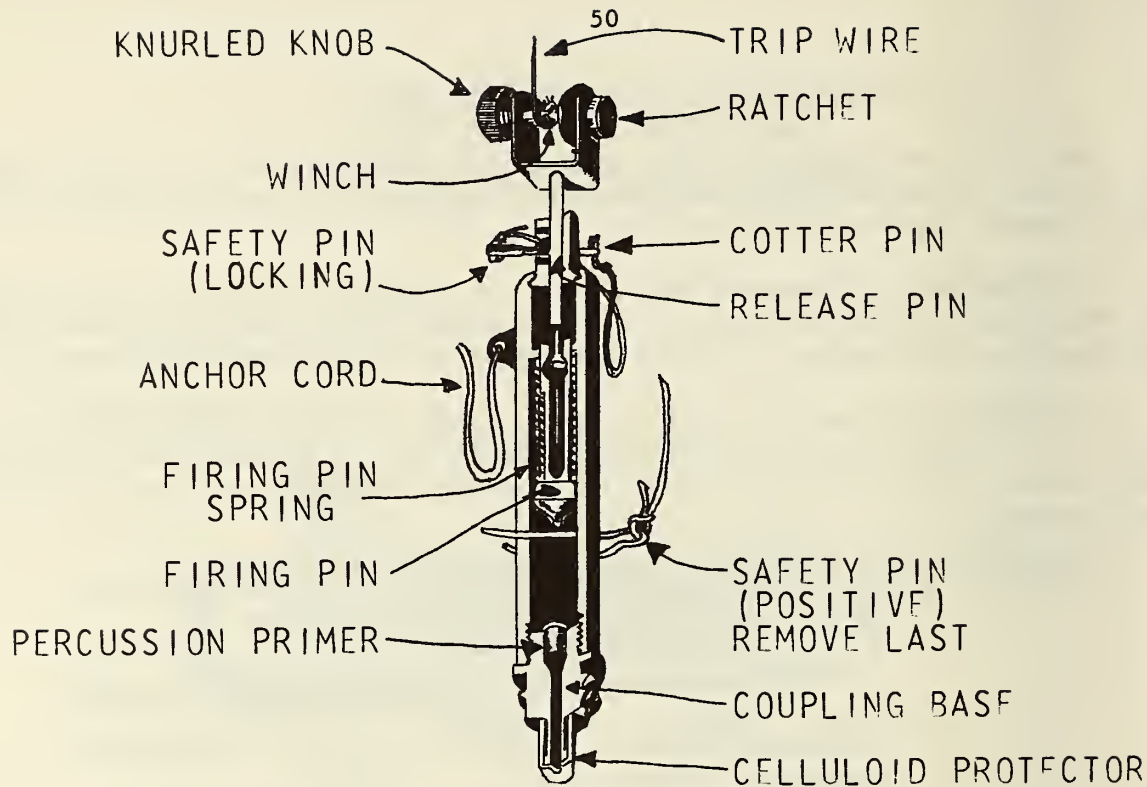
FUNCTIONING. A pressure of 9.20 kg (20 pounds) or more on the pressure cap depresses the trigger spring, which causes the trigger pin to move into the barrel of the device. This action releases the striker and fires the device.

DISARMING. Place the safety pin or a nail in the positive safety pinhole. If a safety clip is available, replace it. The device will not fire as long as the positive safety pin is in. Unscrew the base for destruction or safe storage.

CAUTION. Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type.....	Pressure
Operating Pressure.....	9.20 kg (20 pounds)
Material of Case.....	Metal
Color.....	OD



**US FIRING DEVICE
PULL-RELEASE TYPE, M3**

U.S. FIRING DEVICE, PULL-RELEASE TYPE, M3

This firing device is used by RVNAF in antipersonnel mines and booby-traps, and may be in the hands of the VC.

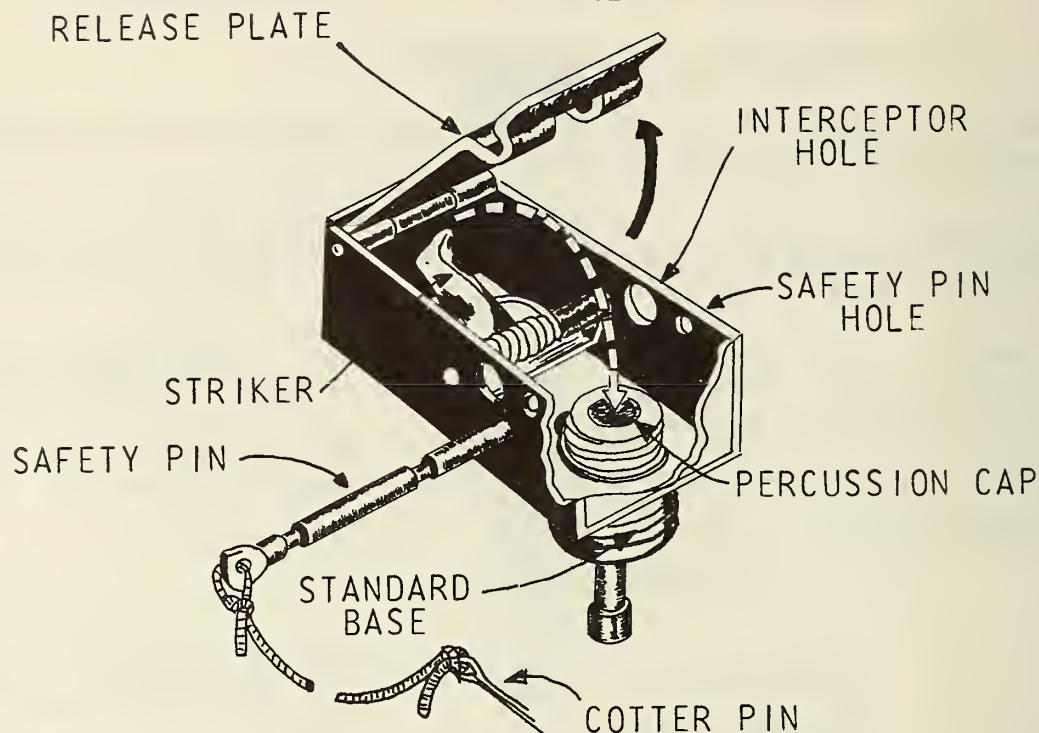
FUNCTIONING. A pull of 2.8 to 4.6 kg (6 to 10 pounds) on a trip wire, or a release of tension on a trip wire, allows the striker to become disengaged from the release pin to fire the device.

DISARMING. First, insert the positive safety pin. Then insert the locking safety pin and remove the trip wire from the winch. Unscrew the base for safe storage or destruction.

CAUTION. DO NOT TOUCH TRIP WIRE!! Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type.....	Pull and tension release
Operating Pull.....	2.8 to 4.6 kg (6 to 10 pounds) or a release of tension
Material of Case.....	Metal
Color.....	OD



**US FIRING DEVICE
PRESSURE-RELEASE TYPE, M5**

U.S. FIRING DEVICE, PRESSURE-RELEASE TYPE, M5

This firing device is used as an antilifting device in boobytraps and mines by RVNAF and may be in the hands of the VC.

FUNCTIONING. When a restraining load of at least 2.3 kg (5 pounds) is removed from the latch, a swing lever within the device is released, strikes the percussion cap and initiates the firing chain.

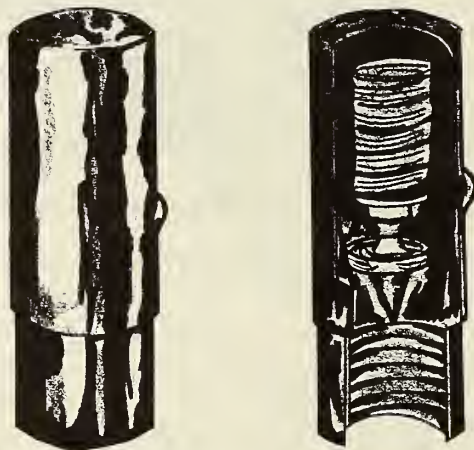
DISARMING. DO NOT DISTURB THE RESTRAINING LOAD ON THE LATCH. Insert the positive safety (nail or wire) through the large interceptor holes, and then insert the locking safety pin. It is then safe to remove the restraining load. Unscrew the base for safe storage or destruction.

CAUTION. Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type.....	Pressure release
Restraining pressure.....	2.3 kg (5 pounds) minimum
Material of Case.....	Metal
Color.....	Light khaki, green

PRESSURE FUZE, MV-5 (SOVIET)



SOVIET PRESSURE FUZE MV-5

The enemy in Korea made extensive use of this fuze in the TM-41 anti-tank mine and in the TMD-B Wooden Box Antitank mine. It may also be used in the TMB-1, TMB-2, and TMS-B mines. It may be available to the VC.

FUNCTIONING. A pressure of 10.1 kg (22 pounds) on the top of the fuze moves the pressure cap down to a position where the striker retaining ball moves into a recess at the side of the cap. This action releases the spring loaded striker which fires the fuze.

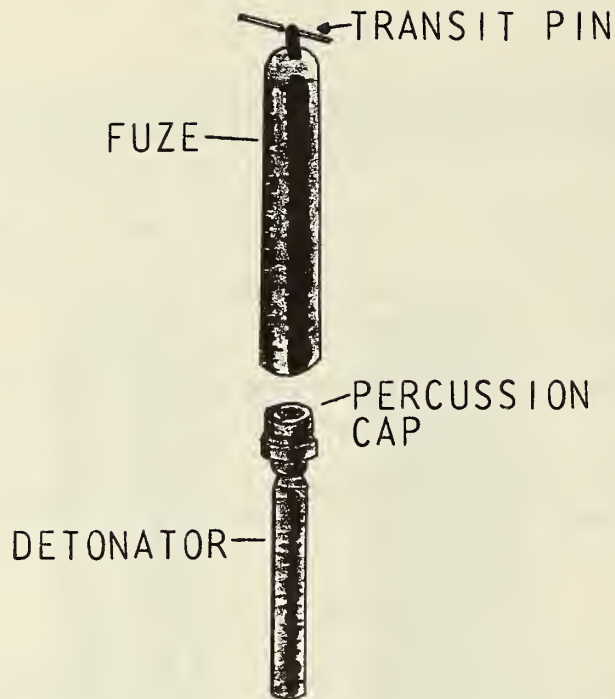
DISARMING. Remove the fuze from the mine and unscrew the base with the detonator.

CAUTION. The detonator is extremely sensitive to pressure and heat, so care must be exercised in removing and handling it. Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type.....	Pressure
Operating Pressure.....	10.1 kg (22 pounds)
Material of Case.....	Metal
Color.....	Varies

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FUZE UNCOCKED FOR TRANSIT

SOVIET PULL FUZE MUV

SOVIET PULL FUZE MUV

This simply constructed fuze has been frequently employed by the Communists, especially in improvised devices rigged with trip wires. It is also used in the POMZ-2, PMD-6 and YAM series mines.

FUNCTIONING. A force of 0.9 kg (2 pounds) will remove the striker retaining pin and release the spring-driven striker to fire the fuze.

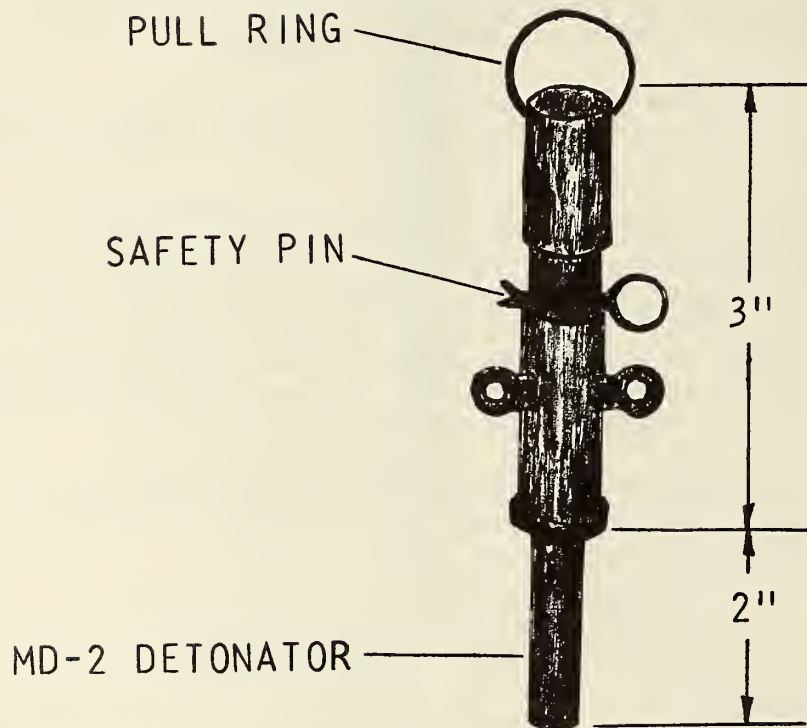
DISARMING. Cut any slack trip wires that are attached to the eye of the striker retaining pin. Remove the fuze from the mine and unscrew the base with the detonator. This fuze may also be set with a taut trip wire attached to the upper hole of the striker with the striker retaining pin removed. The fuze will function when the trip wire is cut. In this case, insert a nail or wire into the exposed lower striker retaining pin hole, and then cut the taut trip wire. This fuze will function even though a nail or pin is in the upper hole.

CAUTION. The detonator is extremely sensitive to pressure and heat, and care must be exercised in removing and handling it. Do not attempt to remove the detonator from the base.

CHARACTERISTICS

Type	Pull or tension release
Operating pull	0.9 kg (2 pounds)
Material of case . . .	Metal, plastic and rubber composition
Color	Varies

SOVIET PULL FUZE VPF



SOVIET PULL FUZE VPF

This fuze was reportedly encountered on a few occasions in Korea. It is used in standard and improvised mines of all kinds, both on land and in water. Its use by the Viet Cong should be anticipated.

FUNCTIONING. This fuze is normally set to function by a pull on the pull ring, but may be fitted with a rod projecting from the clamp top so that it will function by lateral pressure or pull on the rod. When either action occurs, the claw-like base of the clamp top releases the ball shaped end of the striker, thus firing the fuze.

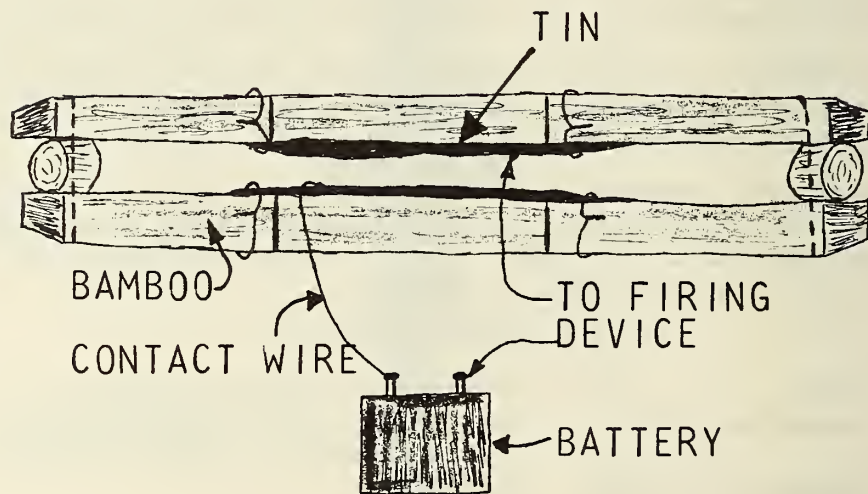
DISARMING. Carefully insert a nail or wire through the safety pin hole and remove the fuze from the mine, unscrewing the base with the detonator.

CAUTION. Because of the sensitivity of this fuze, extreme care must be used in handling. Do not force the parts or attempt to remove the detonator from the base. It is recommended that mines fitted with this type of fuze be blown in place.

CHARACTERISTICS

Type	Pull (also lateral pressure on an extension rod)
Operating force . .	3.9-6.4 kg (8.5-14 pounds) pull or 1-1.6 kg (2.5-3.5 pounds) lateral pressure on rod
Material of case . .	Metal
Color	Varies

VC ELECTRIC FIRING DEVICE



VC ELECTRIC FIRING DEVICE

This firing device, used to set off road mines, is constructed of bamboo, tin and a 4.5-volt battery. The mine is set off when a vehicle passes over the device.

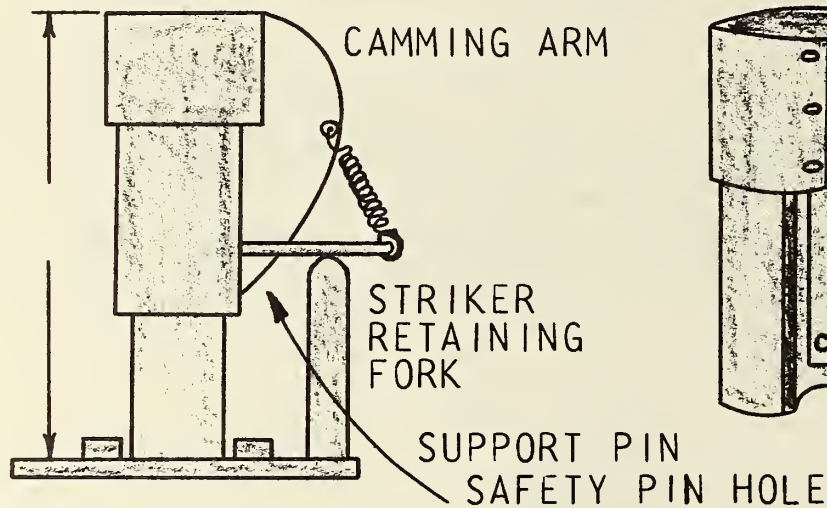
DISARMING. Disconnect battery or cut wires one at a time.

CHARACTERISTICS

Bamboo	Approx. 97.4 cm (3 ft) long, split in half lengthwise
Diameter	3.7 to 5.1 cm (1½ to 2 inches)
Contacts	Tin
Power	4.5-volt battery
Placement	Under surface of ground wrapped in plastic

VC IMPROVISED FUZE

PRESSURE HEAD



VC IMPROVISED FUZE

The US Bomb, Fragmentation M83 is converted by the VC to an anti-personnel mine. This mine is described in this book with US mines.

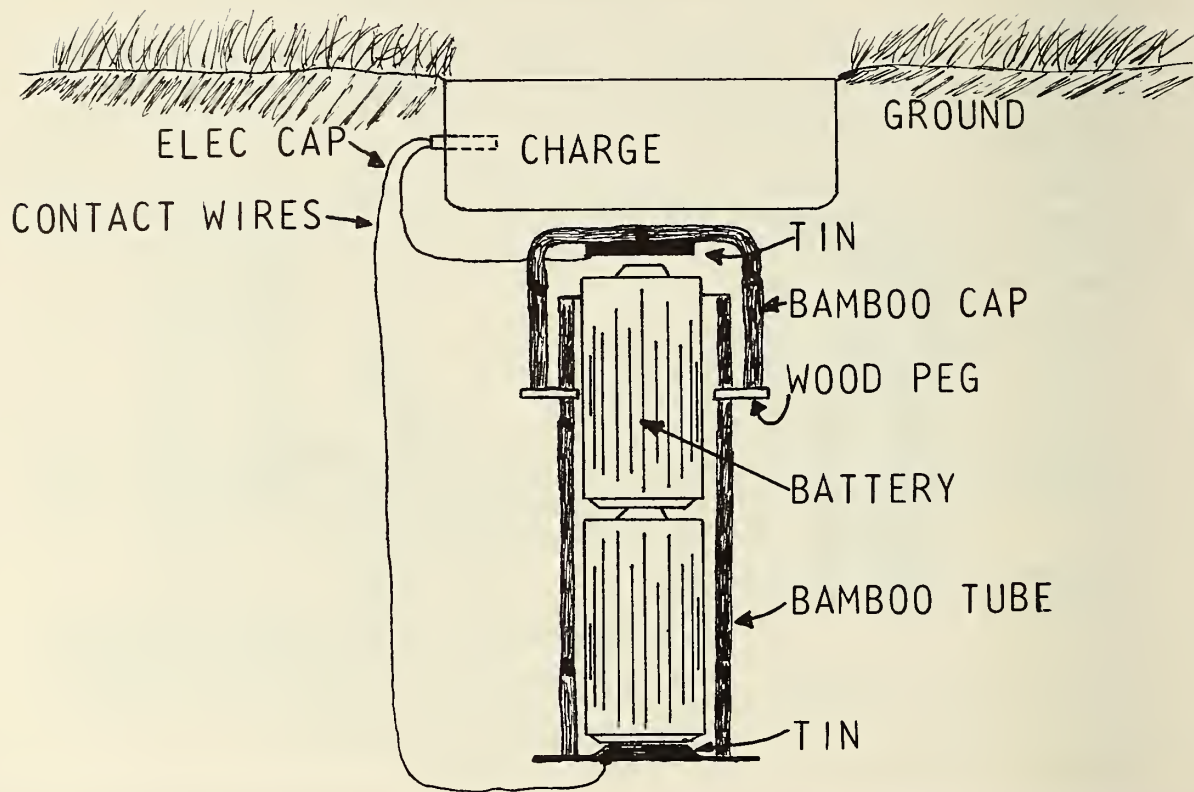
FUNCTION. This mine employs a combination pressure/pull fuze and it is armed when the safety pin is removed. Pressure applied on top of the pressure head causes the camming arm to force the striker retaining fork away from the pressure head. This releases the spring loaded firing pin to strike the percussion cap. This fuze may also be fired by a trip wire attached to the striker retaining fork. The fuze can be used simultaneously as a pressure and pull fuze, or it could be used without the pressure head as a pull fuze.

SAFETY DEVICE. Safety pin only.

CHARACTERISTICS

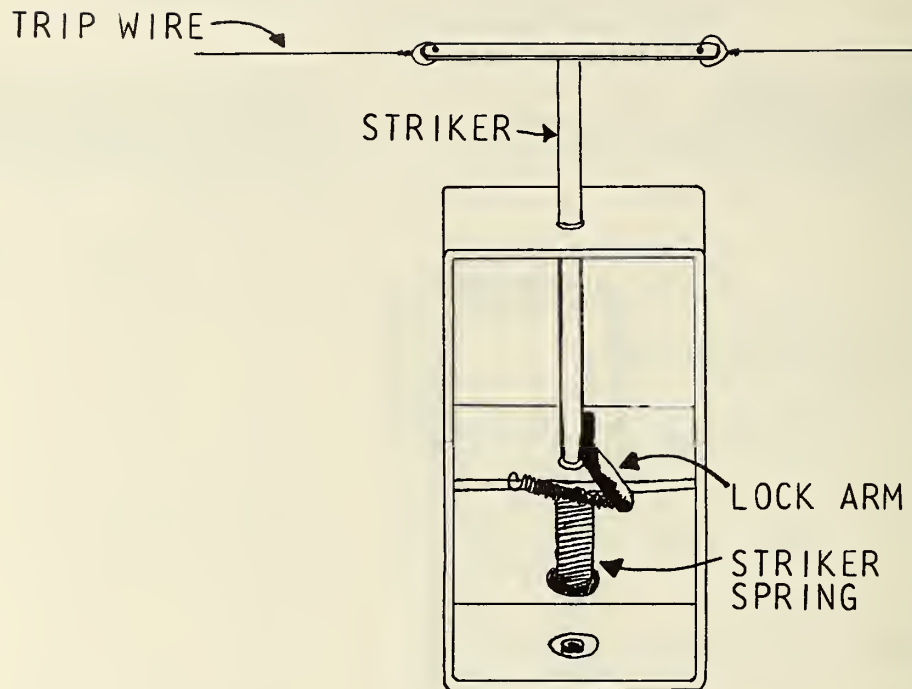
Location	Top of mine is normal fuze well of M83 bomb.
Booster type	Primer-detonator holder threaded into fuze with shaped charge booster-detonator slip fitted with wax sealer.
Number of fuzes	One
Markings	Fuze base is cap assembly for fuze, air/ground, M129 for bomb, fragmentation, M83 and is marked accordingly.
Construction Material.	Steel with lead primer detonator holder and brass booster-detonator.
Height of fuze	5.7 cm (2.25 inches)

FLASHLIGHT FIRING DEVICE



FLASHLIGHT FIRING DEVICE

A bamboo tube with a cap, housing two BA-30 flashlight batteries, is placed under a mine. When pressure is applied to the upper half, the wooden pins break, allowing electrical contact and thus causing the mine to detonate.



VC PRESSURE/PULL FIRING DEVICE

VC PRESSURE/PULL FIRING DEVICE

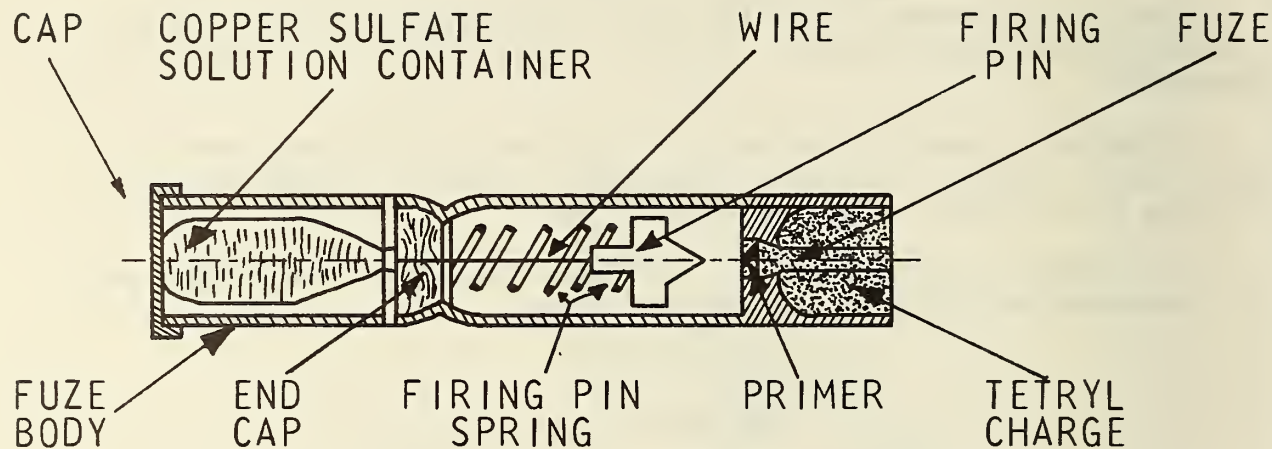
This firing device is constructed of light gauge metal and can be used as a combination pressure or pull. It is used with grenades and boobytraps.

FUNCTION. Pressure applied to the striker, via the trip wire or by a direct pressure from above, forces the striker to rotate slightly causing the lock arm to release the striker.

DISARMING. Caution should be used when disarming. The striker must be prevented from striking the percussion cap.

CHARACTERISTICS

Type	Pressure/Pull
Width	Approx. 3.8 cm sq ($1\frac{1}{2}$ in sq)
Height	Approx. 9.1 cm (4 in)
Material	Light gauge metal



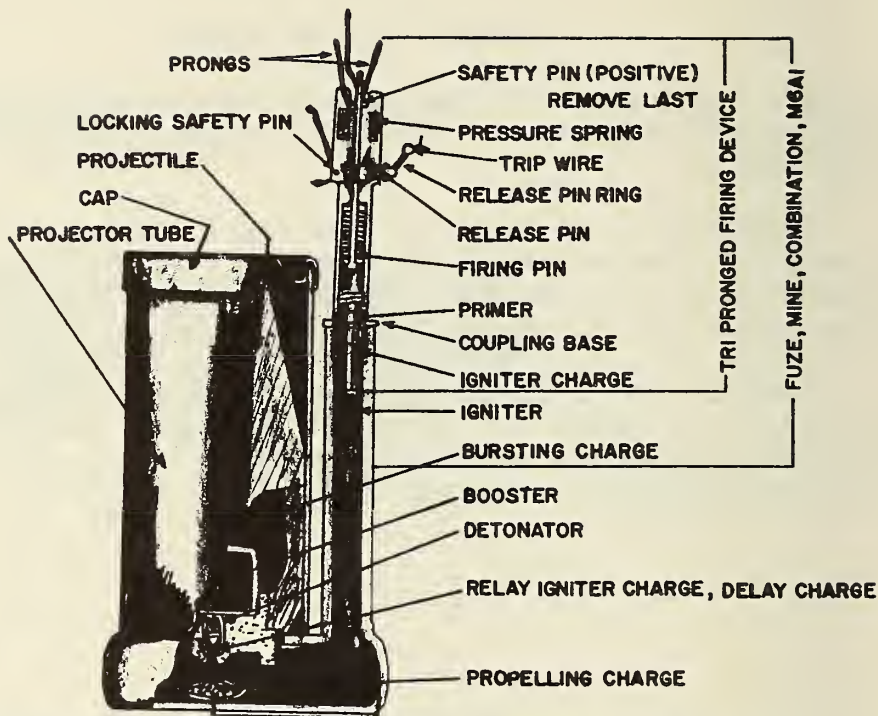
CHEMICAL FIRING DEVICE

CHEMICAL FIRING DEVICE

This firing device may be employed by the VC for sabotage purposes. It is attached to mines and demolition charges. Its delay is between 20 and 38 minutes.

FUNCTIONING. The copper sulfate tube is broken and the solution reacts on the metal wire securing the firing pin. The wire is weakened and breaks, allowing the spring driven firing pin to strike the primer, resulting in detonation of the charge.

DISARMING. Once the firing device has been initiated, there is no way to save the device. In an extreme emergency, unscrew the firing device and place it away from the charge. Evacuate the area and wait at least one hour before returning to examine the device.



**US ANTI-PERSONNEL MINE M2A4
WITH FUZE M6AI**

US ANTIPERSONNEL MINE M2A4 WITH FUZE M6A1

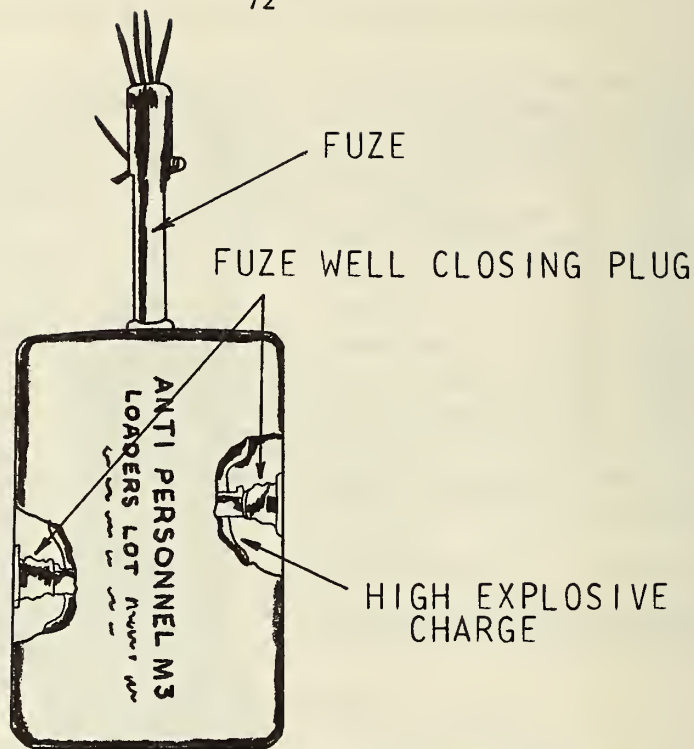
This series of mines is of the "bounding" type. To obtain a more effective fragmentation pattern the burst charge contained in a projectile is projected several feet into the air by a propelling charge before it is exploded. It has a casualty radius of 10 meters and is dangerous to 150 meters. It is employed by burying and leaving the top of the fuze projecting above the ground. It may be fired by pressure or trip wire when used with the M6A1 fuze.

FUNCTIONING. A pressure of 3.7 to 9.2 kg (8 to 20 pounds) on one or more of the three prongs, or a pull of 1.4 to 4.6 kg (3 to 10 pounds) on a trip wire attached to the release pin, causes the release of the firing pin which strikes the primer and initiates the propelling and explosive charges. The shell is projected into the air, and the delay charge causes the explosive train to function, bursting the shell at a height of 2-3 meters.

DISARMING. Carefully inspect for boobytraps and uncover the mine to expose the safety pin hole and the locking pin hole. Insert the safety pins. Disconnect the trip wires. Remove the fuze from the mine.

CHARACTERISTICS

Weight	2.30 kg (5.01 pounds)
Weight of explosive.	0.16 kg (.34 pounds)
Diameter	24.4 cm (9.63 inches)
Height	9.5 cm (3.75 inches)
Color	OD with yellow markings



US ANTI-PERSONNEL MINE, M3
WITH FUZE M7A1

US ANTIPERSONNEL MINE M3 WITH FUZE M7A1

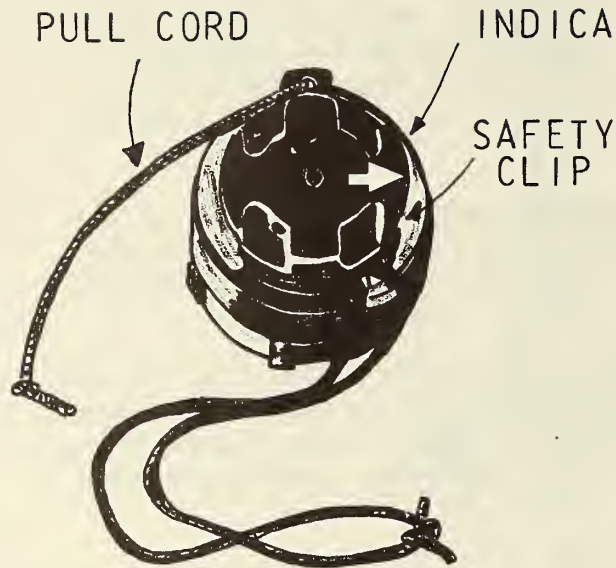
This is a fragmentation type mine. It consists of a high explosive charge in a heavy cast iron case. It is normally employed at the surface of the ground, but it may be employed above the ground for increased effect. This mine has three fuze wells permitting boobytrapping with a variety of fuzing arrangements. It is normally installed with the M7A1 fuze.

FUNCTIONING. A pressure of 3.68 to 9.20 kg (8 to 20 pounds) on any of the fuze prongs or a pull of 1.35 to 4.60 kg (3 to 10 pounds) on the release pin will release the firing pin which will strike the primer and initiate the explosive train.

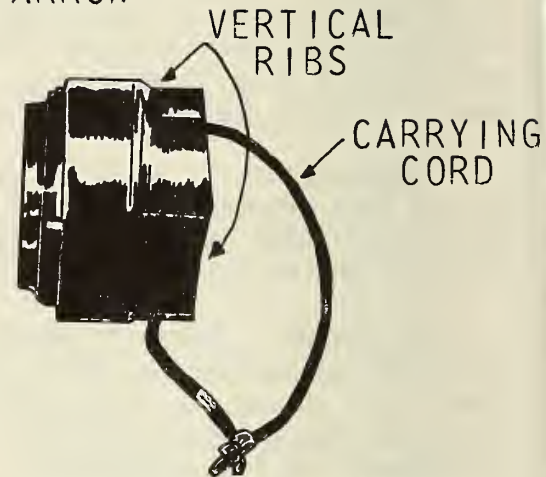
DISARMING. Carefully remove comouflage and dirt. This mine is very adaptable to boobytraps, so examine it carefully before beginning removal. Insert the firing pin safety pin (positive) first, and then insert the release pin safety pin (locking). Disconnect the wires. Remove the mine and remove the fuze or fuzes.

CHARACTERISTICS

Weight	5.1 kg (11 pounds)
Weight of explosive	0.41 kg (.90 pounds) of TNT
Width	8.9 cm (3.5 inches)
Height	22.1 cm (8.7 inches)
Color	OD with yellow markings



SAFETY CLIP IN POSITION,
TOP VIEW



SAFETY CLIP REMOVED,
SIDE VIEW

US ANTIPERSONNEL MINE M14

US ANTIPERSONNEL MINE M14

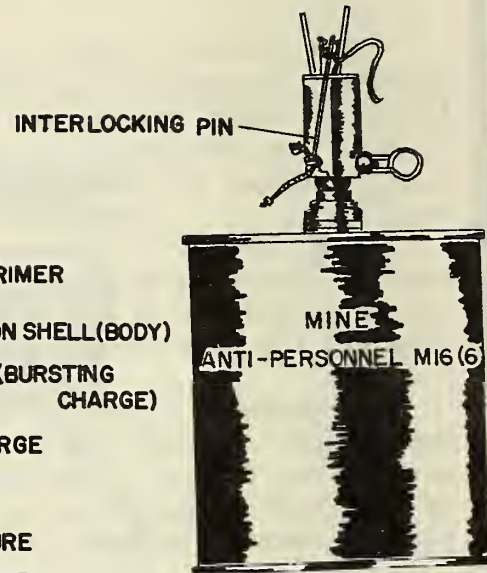
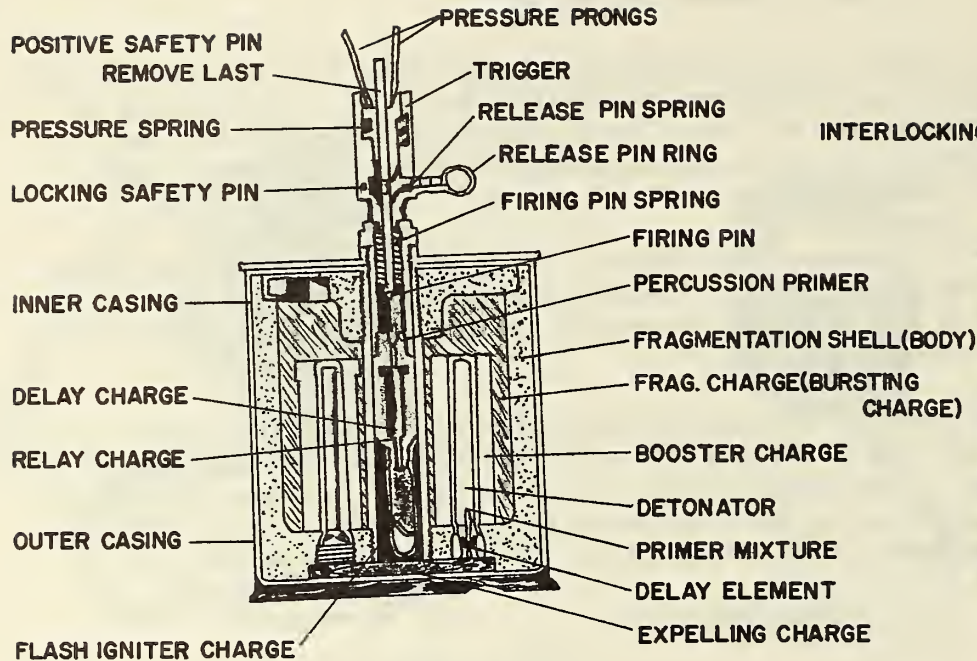
This plastic, pocket size M14 mine was designed to inflict injuries requiring prolonged hospitalization rather than to kill. The mine may be buried in roads, footpaths, or other local avenues of approach for foot troops. Because of its plastic construction, the M14 is extremely difficult to detect by electronic means.

FUNCTIONING. A pressure of 9.20 to 16.1 kg (20 to 35 pounds) of pressure on the pressure plate causes a belleville spring to reverse itself and drive the firing pin into the detonator, causing it to fire, thus setting off the main charge.

DISARMING. Carefully uncover the concealed mine. Neutralize any boobytraps. Examine the sides and bottom of the mine for any evidence of activation, damage, or malfunctioning. If there is any evidence of damage or malfunctioning, do not attempt to neutralize the mine. Destroy it in place. Insert the safety clip in the slots in the pressure plate.

CHARACTERISTICS

Weight	0.1 kg (3.33 ounces)
Weight of explosive	0.03 kg (1 ounce) of tetryl
Diameter	5.7 cm (2.2 inches)
Height	4.4 cm (1.6 inches)
Color	OD with yellow markings



US ANTI-PERSONNEL MINE M16A1 WITH FUZE M605

US ANTIPERSONNEL MINE M16A1 WITH FUZE M605

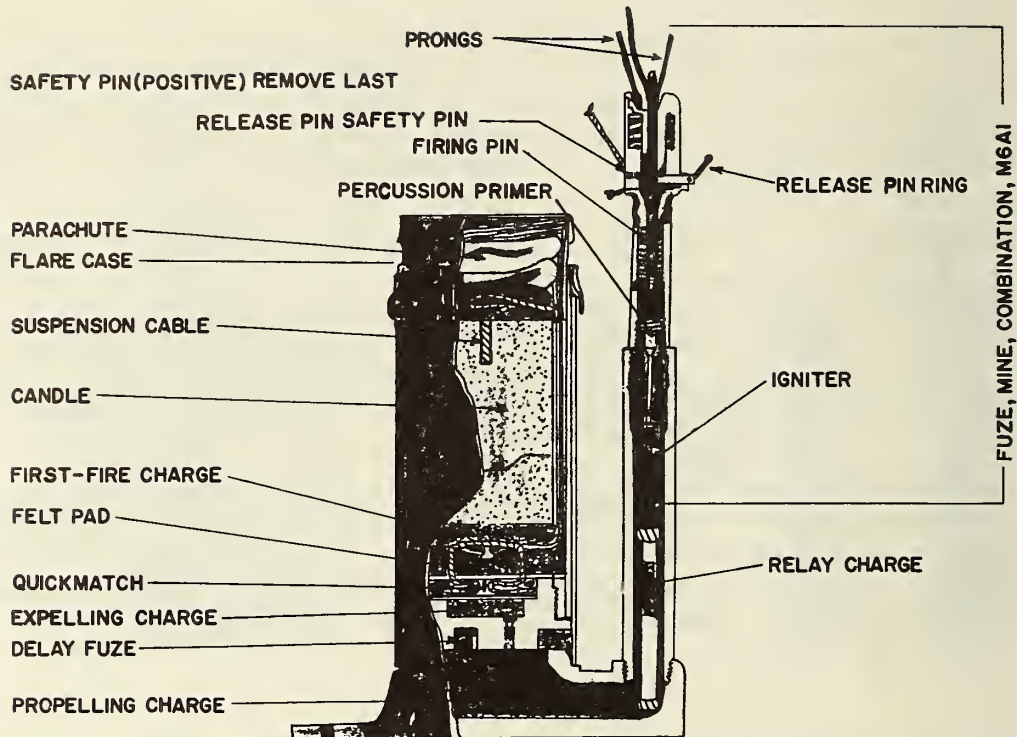
This mine is of the "bounding" type and functions in a manner similar to the mine M2A4 previously described. The mine has an explosive charge three times larger than the M2A4, with a resultant more effective fragmentation pattern and a larger effective radius. It is buried with only the top of the fuze projecting and can be activated by pressure on a trip wire.

FUNCTIONING. A pressure of 3.7-9.2 kg (8 to 20 pounds) on any of the three prongs of the fuze, or a pull of 1.4-4.6 kg (3 to 10 pounds) on the release pin, causes the firing pin to strike the primer and initiate the propellant train. The mine propelling charge projects the mine straight up and ignites the two detonator delay charges. These charges explode the booster, which in turn explodes the bursting charge at a height of 1 to 2 meters.

DISARMING. Check for boobytraps. Carefully uncover the top of the mine and examine it for evidence of malfunction or damage from blast. If the mine is damaged, destroy it in place. Insert a pin into the positive safety pin hole first. Insert the safety pin or wire into the locking safety pin hole. Remove all trip wires. Lift the mine from the ground and remove the fuze.

CHARACTERISTICS

Weight	3.6 kg (7.9 pounds)
Weight of explosive. .	0.46 kg (1 pound) of TNT
Diameter	10.3 cm (4.1 inches)
Height	14 cm (5.5 inches)
Color	OD with yellow markings



US TRIP FLARE M-48 WITH FUZE M6AI

US TRIP FLARE M-48 WITH FUZE M6A1

Captured quantities of these items have been mistakenly used by the enemy as antipersonnel mines and boobytraps. The trip flare does have a use in AP mine fields when used as a warning device in the forward edges of the field, but it should not be used as an AP mine. Its similarity in appearance to the US M2A4 bounding AP mine is probably the reason for its misuse by the enemy.

FUNCTIONING. The fuze is actuated by a pressure on the prongs or a pull on the pull ring. When this occurs, the cannister is propelled into the air to explode at a height of 90 to 150 meters. The burst releases a white parachute flare that burns for twenty seconds.

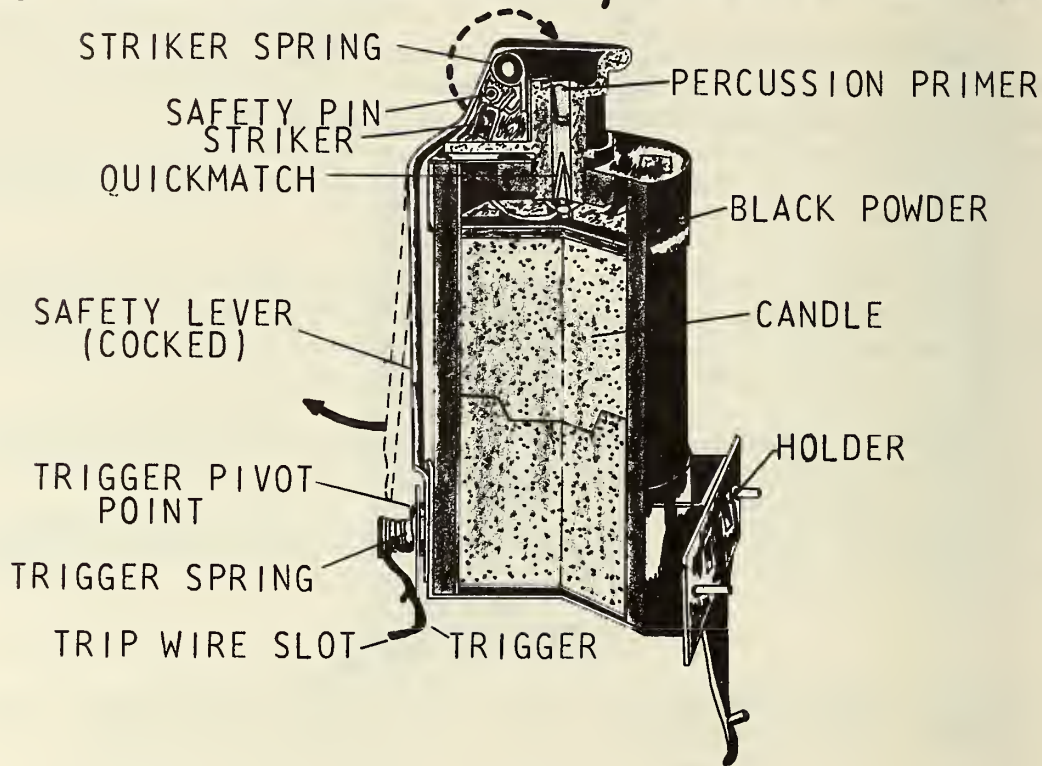
CAUTION. Although this is not an AP mine, serious burns can be caused by premature detonation.

DISARMING. Check for boobytraps. Insert safety pins, disconnect trip wires, and remove the fuze from the flare.

CHARACTERISTICS

Weight	2.3 kg (5.0 pounds)
Diameter	14 cm (5.5 inches)
Height	24.8 cm (9.75 inches)
Color	OD with yellow markings

US TRIP FLARE M-49, WITH FUZE MI2



US TRIP FLARE M-49 WITH FUZE M12

This flare is used as a warning device in forward edges of mine fields. When set off, the flare illuminates the area so that effective fire can be brought to bear on the intruders. The VC often mistake these flares for hand grenades.

FUNCTIONING. A taut wire holds the trigger in an armed position (vertical) against the pressure of the trigger spring. An additional pull of .9 to 4.1 kg (2 to 9 pounds), or a release of tension on the trip wire, allows the trigger to release the lever. The released lever permits the striker to hit the percussion cap and to set off the flare.

DISARMING. Press in on the lever and insert a pin. Remove the trip wire, allowing the trigger to pivot to the unarmed position. The flare is now safe to be moved.

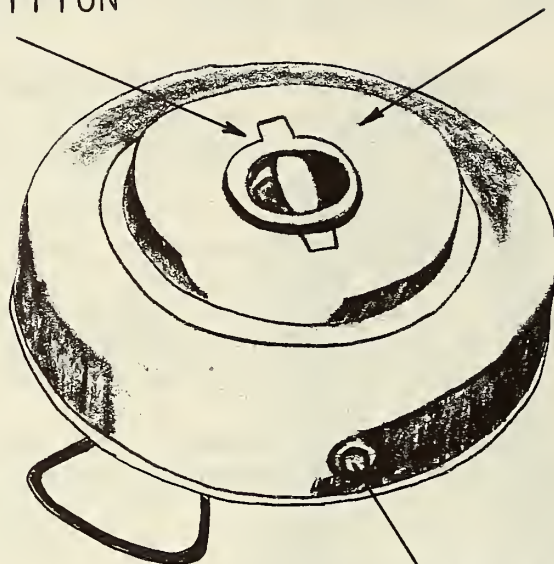
CHARACTERISTICS

Weight	0.69 kg (1.5 pounds)
Diameter	7.62 cm (3.0 inches)
Height	17.35 cm (6.75 inches)
Color	OD with yellow markings

ARMING PLUG IN SAFE
POSITION

82

PRESSURE PLATE



ACTIVATOR WELL
(COVERED BY TAPE AS
SHIPPED)

US ANTI-TANK MINE WITH FUZE M603

US AT MINE M6A2 WITH FUZE M603

This mine consists of a TNT-loaded body with an M603 fuze, a booster, and an arming plug. There are two secondary wells which make this mine very adaptable to boobytraps. It is employed by burying just below the ground surface.

FUNCTIONING. When the arming plug is in the armed position, a force of 138 to 184 kg (300 to 400 pounds) on the pressure plate depresses the belleville spring of the mine, resulting in the belleville spring of the fuze being depressed. This spring snaps into reverse, driving the firing pin into the detonator, thus initiating the explosive train.

DISARMING. Carefully uncover the concealed mine, examining for boobytraps. Examine the bottom and side secondary wells for boobytrapping. Replace all safety pins in secondary firing devices, if any. Remove trip wires, checking for other boobytraps. Turn the arming plug to SAFE and remove it. Remove the fuze and replace the safety clips. If the fuze is frozen destroy the mine in place or notify explosive ordnance disposal personnel.

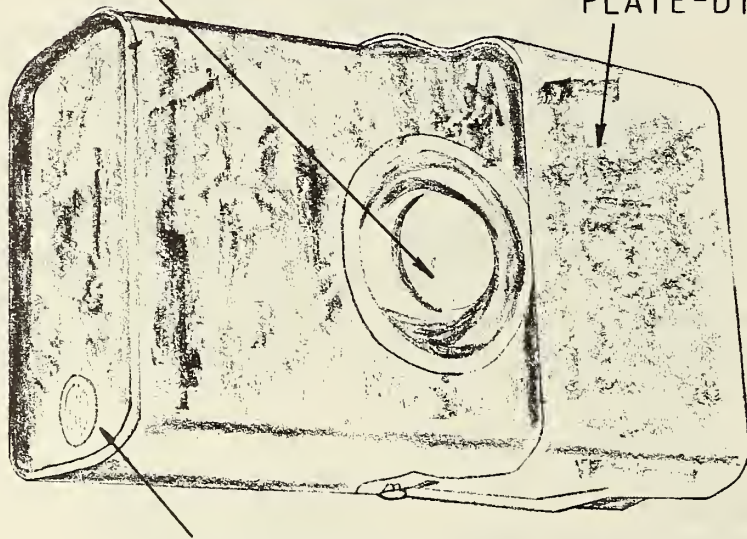
CHARACTERISTICS

Weight	9 2 kg (20 pounds)
Weight of explosive. .	5.5 kg (12 pounds) of TNT
Diameter	33 cm (13.12 inches)
Height	8.25 cm (3.25 inches)
Color	OD with yellow markings

U.S. AT MINE M7A2 WITH FUZE M603

FUZE MINE M.603

MOVABLE PRESSURE
PLATE-DISARMED POSITION



SECONDARY FUZE WELL FOR CARRYING PLUG
AND BOOBYTRAP FIRING DEVICE

US ANTITANK MINE M7A2 WITH FUZE M603

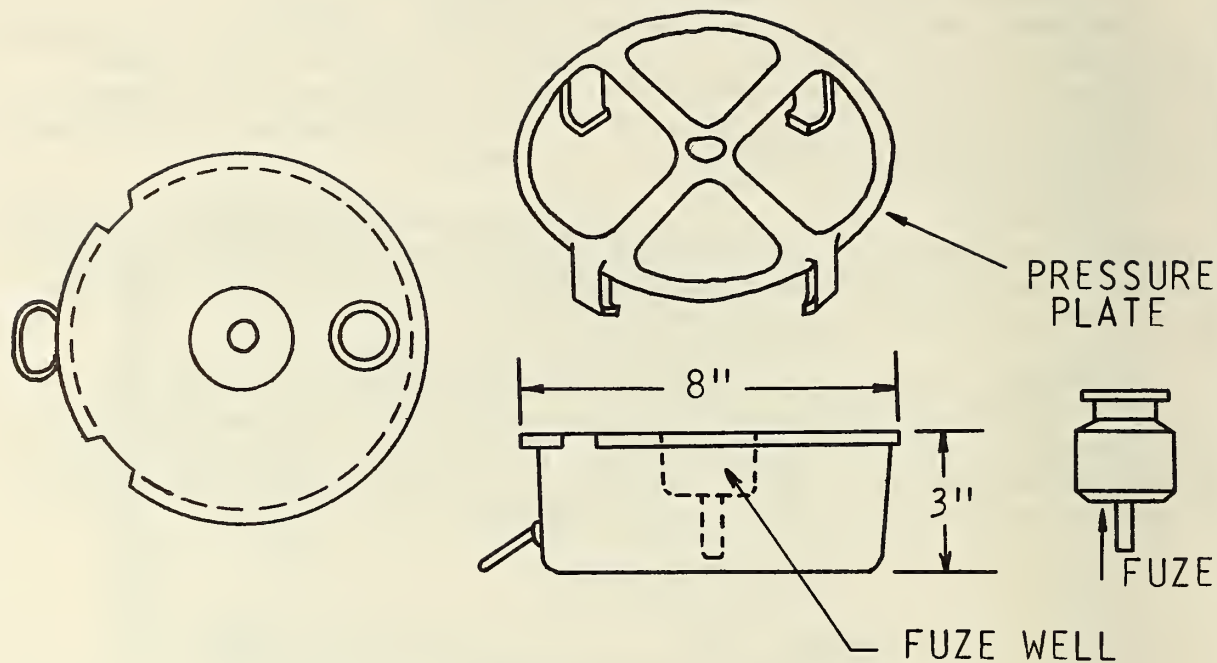
The mine consists of an explosive charge in a quart size, rectangular, light steel container intended for use against trucks and light tanks. It may be also used as an antipersonnel mine or as a demolition charge. It contains a secondary fuze well and is easily boobytrapped. It is armed by sliding a moveable pressure plate over the fuze.

FUNCTIONING. A force of 63 to 109 kg (140 to 240 pounds) on the mine pressure plate depresses the pressure plate of the fuze. The belleville spring of the fuze snaps into reverse and drives the firing pin into the detonator, thus initiating the explosive train.

DISARMING. Carefully uncover the mine and check for boobytraps. Insert a positive safety pin into the secondary fuze, if present. Remove all trip wires. Slide the mine pressure plate from its position over the fuze. Remove the fuze. If the fuze is frozen, destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Weight	2.2 kg (4.88 pounds)
Weight of explosive.	1.6 kg (3.62 pounds) of tetrytol
Length	17.8 cm (7 inches)
Width	11.4 cm (4.5 inches)
Height	6.4 cm (2.5 inches)
Color	OD with yellow markings



U.S. ANTITANK MINE M1A1

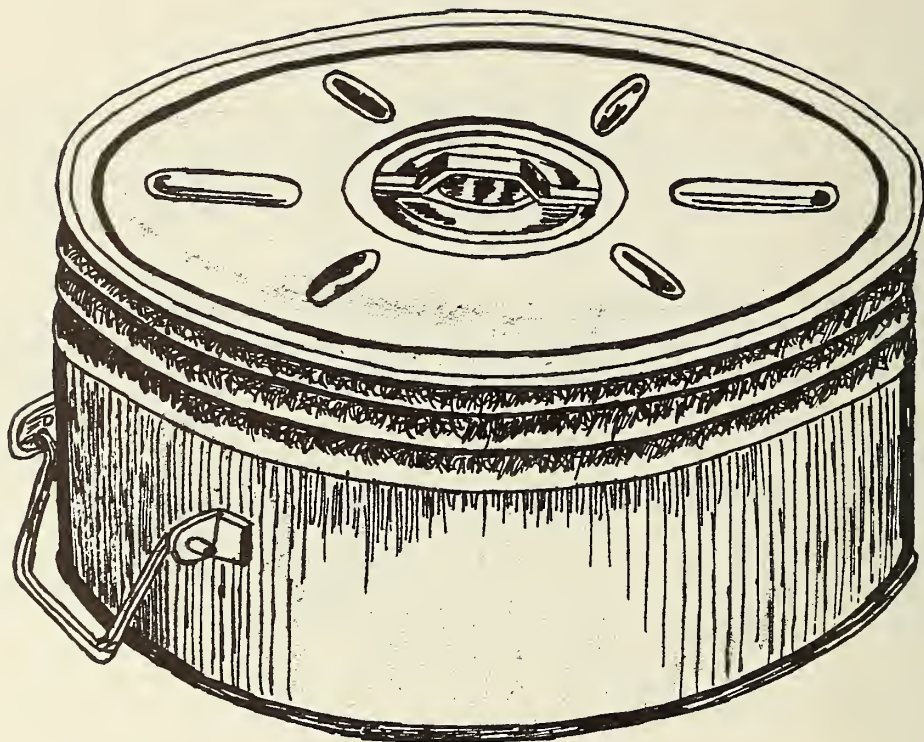
US ANTITANK MINE M1A1

This antitank mine is a World War II American mine. Stenciled in yellow on the top is the identification "MINE M1A1 - TNT" along with the date of manufacture and the lot number. The Chinese Communists make a copy of this mine with a larger fuze well and a somewhat different pressure plate.

FUNCTION. Approximately 92 kg (200 lbs) of pressure on the pressure plate will cause the shear pin in the fuze to shear off, allowing the firing pin to strike the primer and causing detonation of the mine.

CHARACTERISTICS

Color	OD with yellow markings
Weight	5.3 kg (11.5 lbs)
Diameter	20.3 cm (8 inches)
Height	7.6 cm (3 inches)
Filler	TNT



SOVIET ANTITANK MINE TM-41

SOVIET ANTITANK MINE TM-41

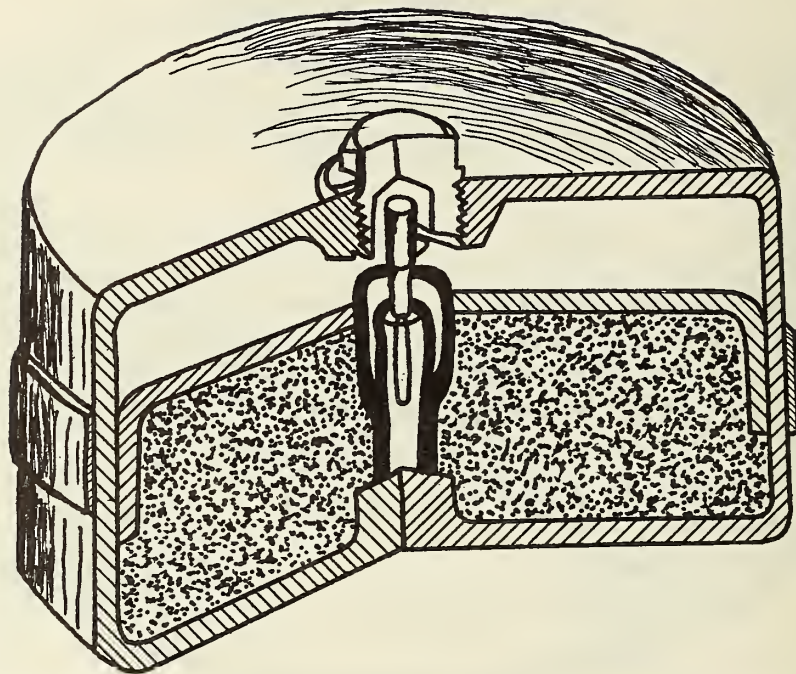
This mine is made of blued steel metal, often painted white or dark OD. This is a pressure type mine and is employed slightly beneath the surface of the ground. It can remain operational for many months when it is water proofed.

FUNCTIONING. A force of 161 kg (350) pounds) pressure on the lid of the mine case will activate the pressure type firing devices beneath the pressure cap.

DISARMING. Check for boobytraps. Unscrew the pressure cap. Gently pull out the fuze with its attached detonator. A blasting cap is attached to this fuze.

CHARACTERISTICS

Weight	5.5 kg (12 pounds)
Weight of explosive. .	3.6 kg (8 pounds)
Height	13.3 cm (5.2 inches)
Diameter	25.4 cm (10 inches)



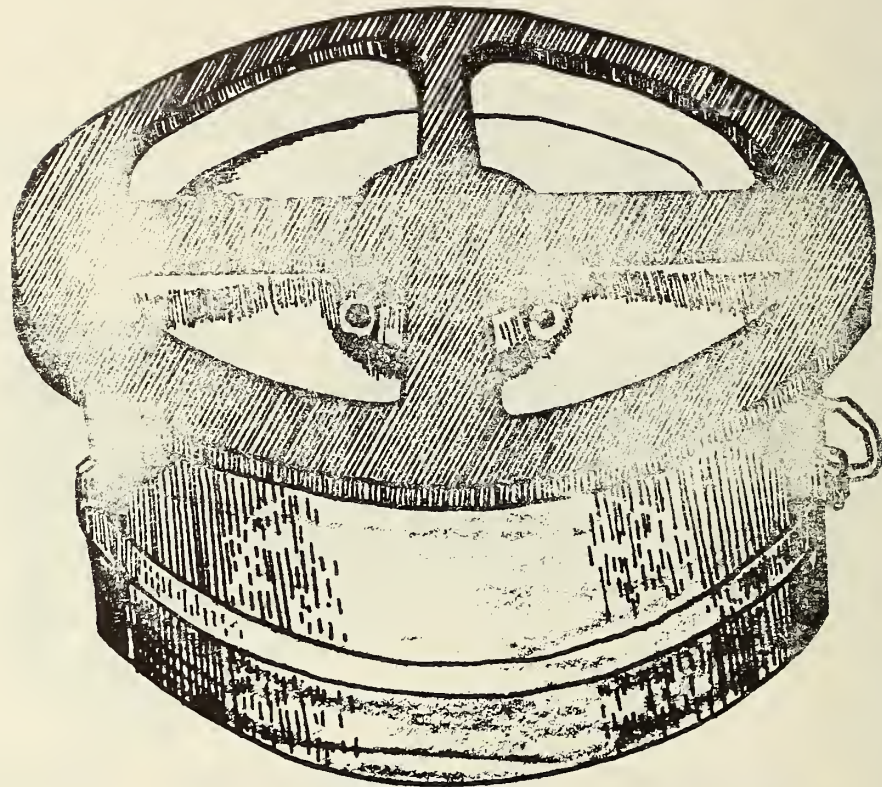
SOVIET ANTITANK MINE TMB-2

SOVIET ANTITANK MINE TMB-2

This mine is of the Soviet standard type of non-metallic antitank mine. It is laid separately or together with metallic and wooden mines. It cannot be detected by a mine detector.

CHARACTERISTICS

Mine Case	Tar impregnated cardboard
Color	Black or Brown
Height	15.3 cm (6 inches)
Diameter	27.5 cm (10-3/4 inches)
Weight	7 kg (15.4 pounds)
Weight of explosive . .	4.9 kg (11 pounds) of amatol



CHICOM ANTIPERSONNEL & ANTITANK MINE NO. 8

CHICOM ANTIPERSONNEL AND ANTITANK MINE NUMBER 8

Some of these mines were located in Korea, but their use was limited. The use of this mine in Vietnam should be anticipated.

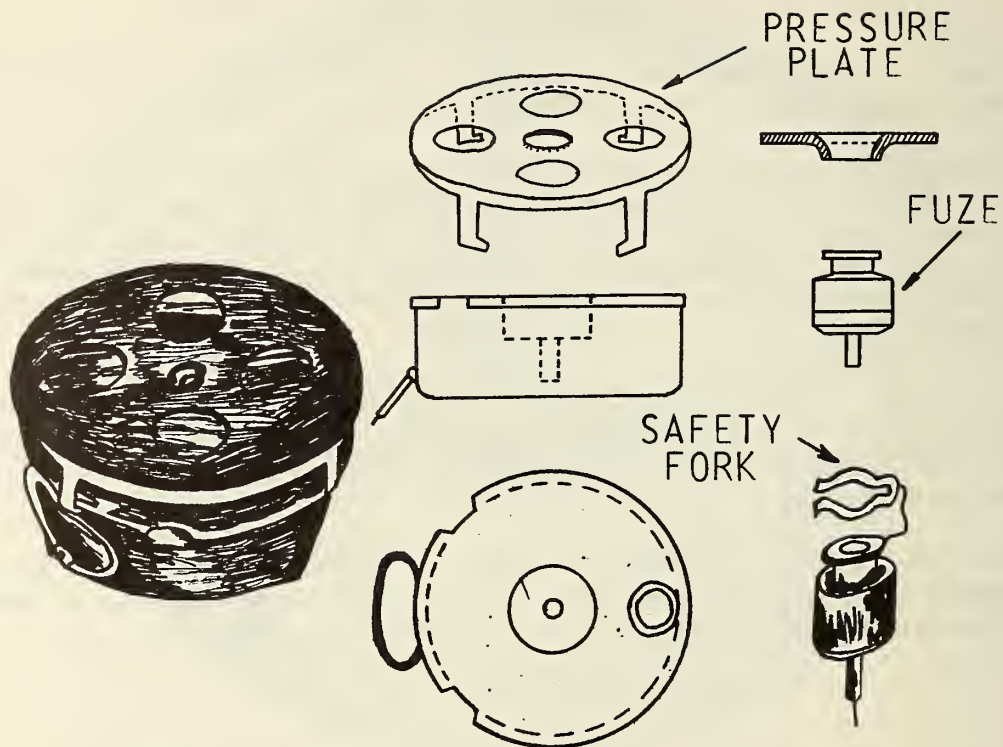
FUNCTIONING. Approximately 138 kg (300 pounds) of pressure on the center of the spider (less pressure if applied to the edge of the spider) causes the igniter to function and the mine to detonate. The fuze of this mine can also be fired by a pull of 4.6 to 23.0 kg (10 to 50 pounds) on the spider. Extreme caution should be exercised if the mine is lifted for removal.

DISARMING Check for boobytraps. Cut any slack trip wires that are connected to the mine. Insert the safety bar into the slot on the side of the fuze. If the bar is not available, carefully remove the spider and unscrew the fuze.

CAUTION. It is extremely hazardous to remove these mines. It is recommended that whenever possible, they be destroyed in place or explosive ordnance disposal personnel be notified.

CHARACTERISTICS

Weight	5.4 kg (12 pounds)
Weight of explosive . .	2.3 kg (5 pounds)
Diameter	228.6 mm (9 inches)
Height	101.6 mm (4 inches)



CHICOM ANTITANK MINE

CHICOM ANTITANK MINE

This antitank mine is supplied to the VC by the Chinese Communists. It is similar to a pre-World War II American mine and is often mistaken for this mine. The mine has stenciled in yellow on the top "MINE M1A1 - TNT."

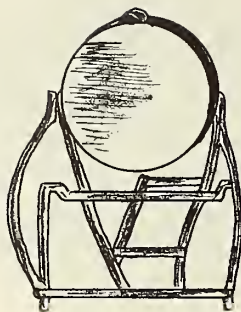
FUNCTIONING. Approximately 92 kg (200 pounds) of pressure on the pressure plate will cause the shear pin in the fuze to shear off and allow the firing pin to strike the primer, causing detonation of the mine.

DISARMING. Remove all soil from around the mine prior to defuzing. Rotate the pressure plate until the fingers disengage the mine body. Carefully lift the pressure plate out of the way. Remove the fuze by lifting it out of the fuze well. Replace the safety fork if present.

CHARACTERISTICS

Color	OD with yellow markings
Weight	5.3 kg (11.5 pounds)
Diameter	20.3 cm (8 inches)
Height	7.6 cm (3 inches)
Filler	TNT

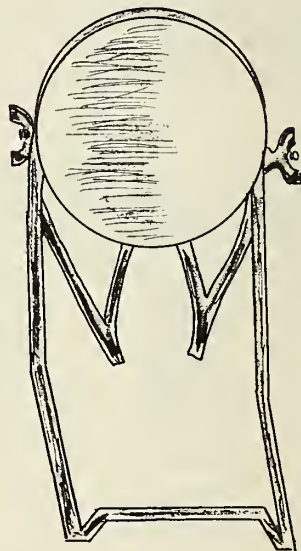
VC FIXED DIRECTIONAL FRAGMENTATION MINE DH-10



5.5 KG



6.9 KG



9.2 KG

VC FIXED DIRECTIONAL FRAGMENTATION MINE (DH-10)

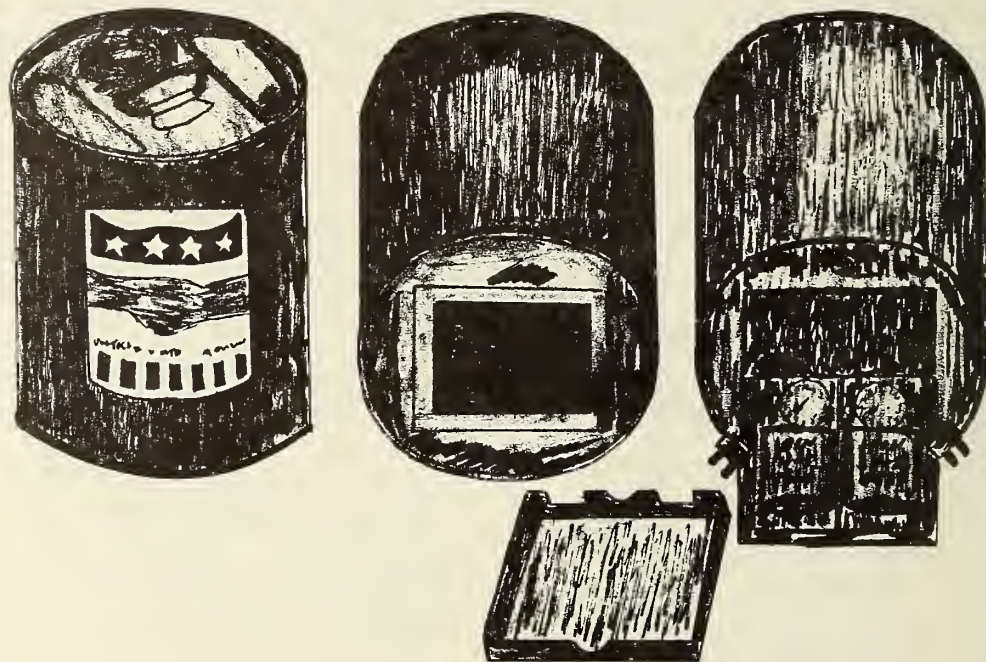
The DH-10 mine has characteristics similar to the US M-18 "Claymore." The DH-10 is designed as an antipersonnel weapon and may be used in ambushes against massed infantry attacks, against lightly armored vehicles, and against helicopters during the landing of troops. The mine stand is so constructed that the mine can be rotated on its axis and aimed in the direction of the target.

FUNCTIONING. The DH-10 is placed and aimed in the direction of the target. An electrical detonator is located in the fuze well in the front or rear center of the mine. Wires from the detonator are connected to a battery pack or hand-held generator located a safe distance from the mine. Although the DH-10 is designed for electrical operation, it would be very simple to incorporate a mechanical fuze.

DISARMING. Cut the electrical leads, one at a time, approximately 15 cm (6 inches) from the mine body. Remove the detonator.

CHARACTERISTICS

Diameter	20, 24 or 28.6 cm (7, 9 or 11.75 inches)
Weight	5.5, 6.9 or 9.2 kg (12, 15 or 20 pounds)
Weight of explosive . .	1.8, 2.8, 3.7 kg (4, 6, 8 pounds)
Filler	TNT
Range	150 to 200 meters
Operation	Electrical



US 5-GALLON OIL CAN TYPE MINE

VC 5-GALLON OIL CAN TYPE MINE

This is a locally manufactured mine using a 5-gallon oil can as the explosive container. The mine is usually employed with a watch or clock as a timing device.

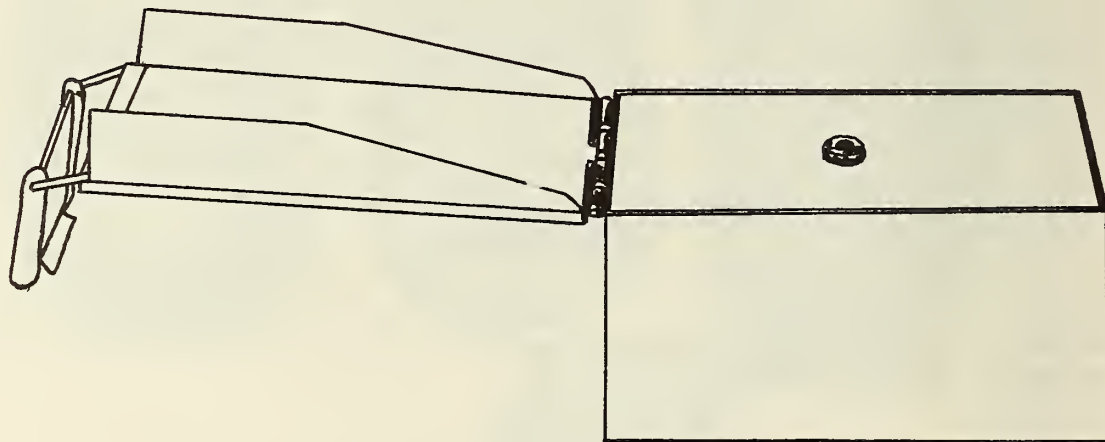
FUNCTIONING. The firing device consists of a battery pack of at least 4.5 volts connected in series to two watches and two electrical detonators. The minute and second hands of both watches have been cut short and small holes drilled through the crystals at the number 12. Brass screws are inserted into the holes and wires are connected from them to the battery. Other wires run from the battery to the detonators. The circuit is completed by running a third set of wires from the watch cases to the detonators. The watches are wound and set to the selected time. When the hour hands touch the brass screws inserted through the crystals, the circuits are completed between the battery and the detonators, resulting in detonation of the mine.

DISARMING. Cut the wires one at a time, either between the watches and the battery or between the watches and the detonators. Remove the batteries and the timing device. Destroy the mine or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	OD or black
Type	Homemade
Operation	Electrical
Weight	10 kg (22 pounds)
Filler	TNT

VC US .50 CALIBER AMMUNITION
BOX MINE



VC US .50 CALIBER AMMUNITION BOX MINE

This mine is constructed by filling a .50 caliber ammunition box with various explosives. It can be used for mining roads or as a sabotage device. This device may be detonated either electrically or non-electrically.

DISARMING. This is an improvised mine and a standard fuze is not used; therefore, no disarming procedure can be given. It is recommended that this mine be blown in place.

CHARACTERISTICS

Weight	25 kg (55 pounds)
Size	50 cal ammo box
Fuze	Electrical or non-electric
Type explosive	C2, C3 or TNT



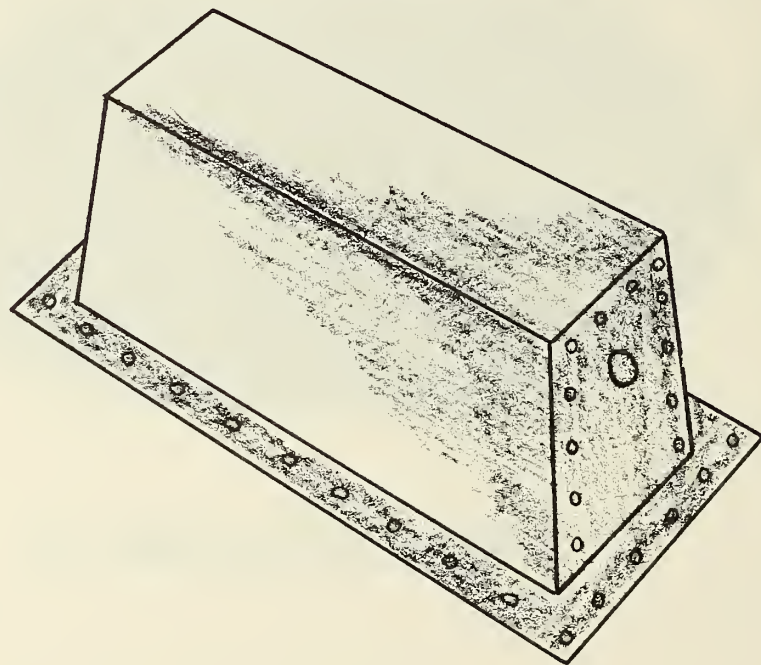
VC IMPROVISED MINE

VC IMPROVISED MINE

This command detonated mine is constructed of either cast iron or concrete. It may vary from hand grenade size to 2 feet in length. It has no identifiable markings.

EMPLOYMENT. This mine can be employed against personnel or vehicles on trails and avenues of approach.

PYRAMID SHAPED MINE LONG TYPE

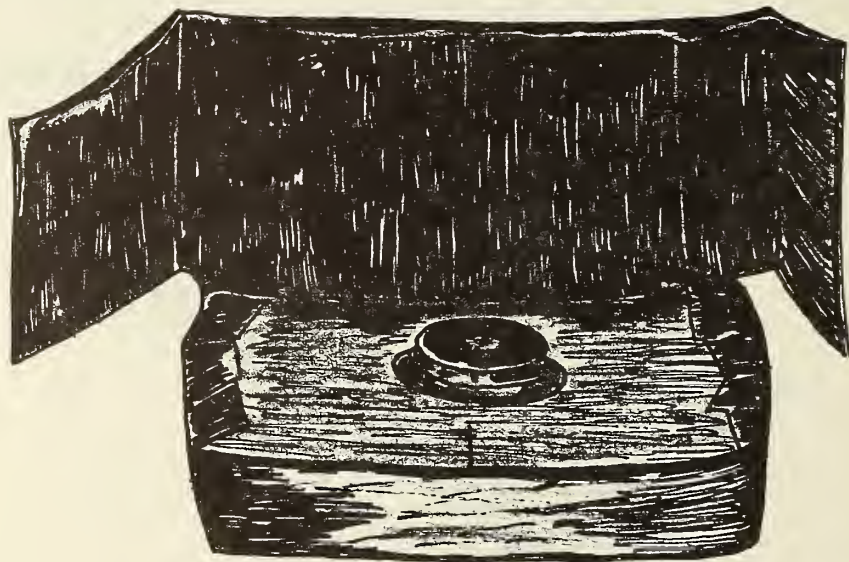


PYRAMID SHAPED MINE, LONG TYPE

This mine, manufactured by the VC, comes in various sizes and shapes. It is a frustum of a pyramid or a box made of steel plates and held together with rivets. Both ends are closed. One end has a well for a blasting cap. It has been found containing one part TNT and one part black powder.

DISARMING. Cut the lead wires one at a time and then remove the blasting cap.

VC IMPROVISED MINE



VC IMPROVISED MINE

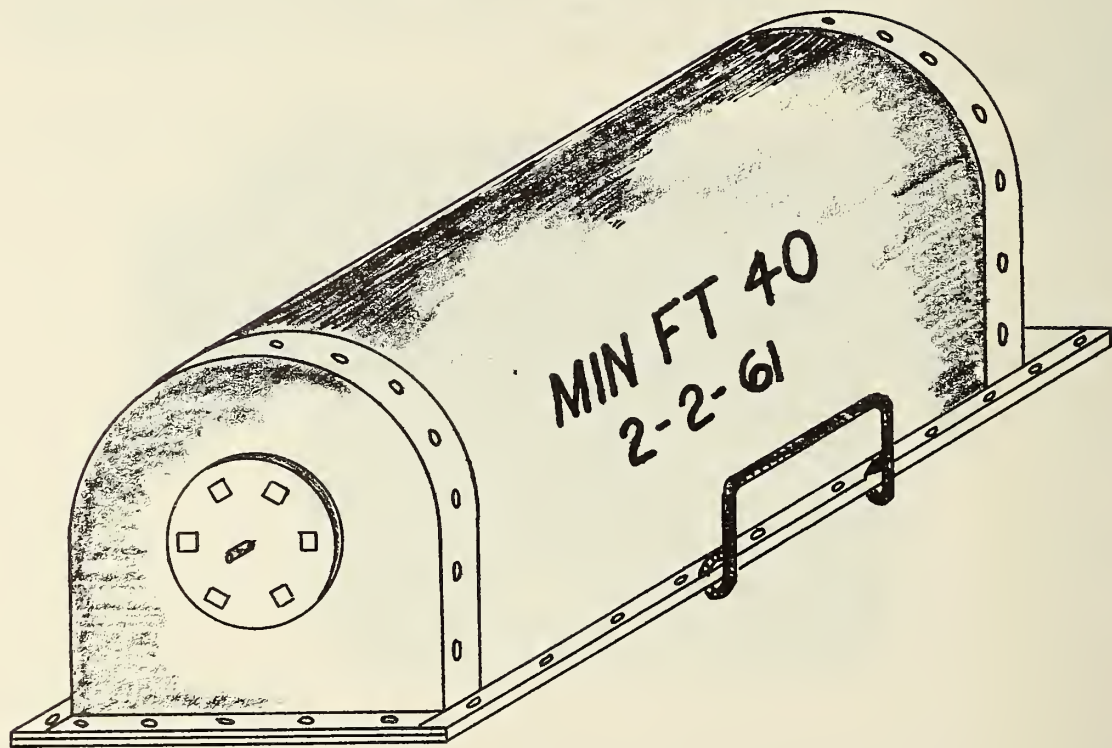
This mine is made by using a tin can, TNT, and a BLU/3 as a pressure fuze. The upper half of the metal can is bent down over the BLU/3 providing a large pressure plate. The lower half of the can is filled with TNT or another explosive.

NOTE. The BLU/3 is a complete US Bomblet except that the fins have been removed.

CHARACTERISTICS

Fuze	BLU/3
Charge	TNT
Case	Tin Can (5 gal)

VC MINE FT40



VC MINE FT40

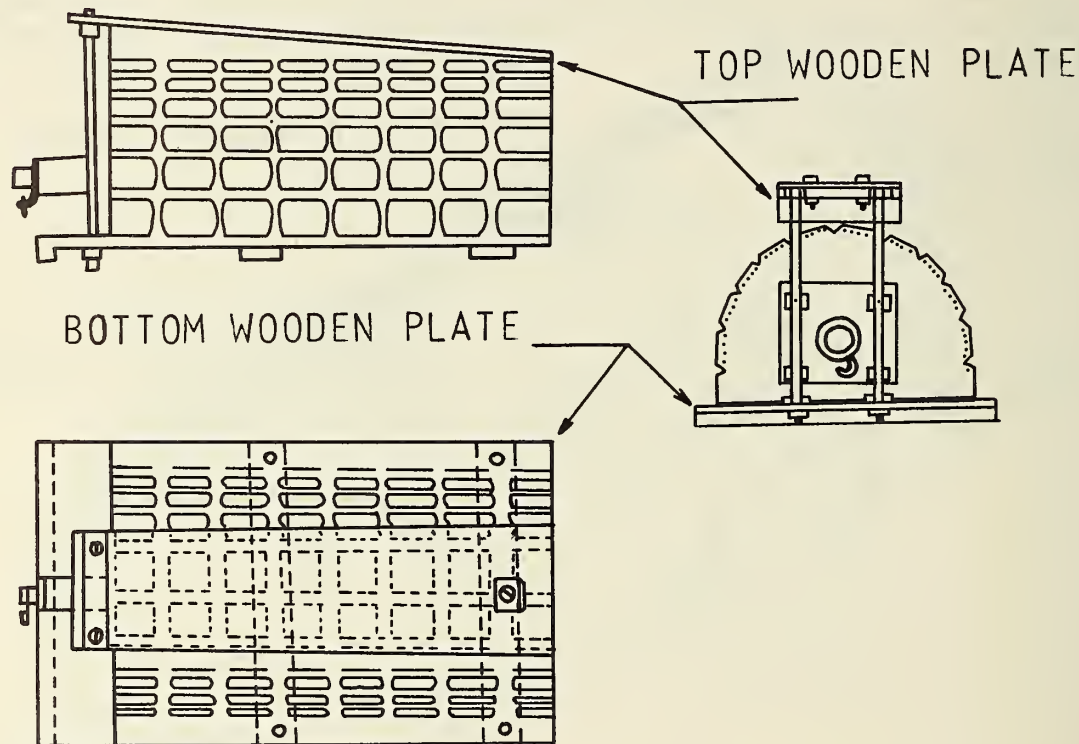
This mine is used for mining roads and demolition work. It is made of steel and riveted together. It uses two electrical caps and is command detonated.

DISARMING. Cut the electrical leads one at a time; then remove electric caps from mine.

CHARACTERISTICS

Color	Black
Weight	55 kg (121.25 pounds)
Explosive	Melinite, 38 kg (83.7 pounds)
Body	Metal
Fuze	Cap

VC CEMENT "TURTLE" MINE



VC CEMENT "TURTLE" MINE

This is a locally manufactured mine with a body constructed of cement. The mine is usually employed as a demolition charge by being attached to a long pole and placed against buildings and fortifications.

FUNCTIONING. The mine is fuzed both electrically and mechanically. A hand grenade friction igniter is used as the non-electrical device.

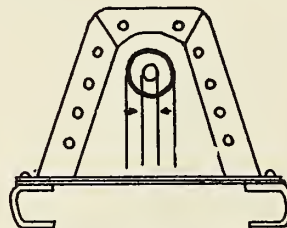
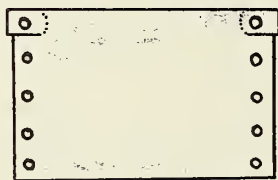
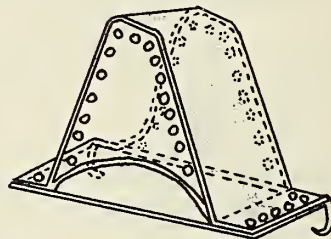
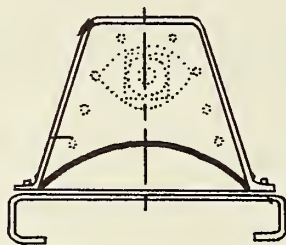
DISARMING. Cut the electrical leads, one at a time, approximately 15 cm (6 inches) from the mine body. Remove the fuze by lifting the detonator out of the fuze well. If non-electrical fuzing has been used, remove the igniter, being careful not to disturb the friction pull ring. DO NOT attempt to remove either type of fuzing if there are signs of corrosion around the fuze or signs of tampering. Destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Gray
Weight	5.6 kg (13 pounds)
Length	22.9 cm (9 inches)
Diameter	12.7 cm (5 inches)
Filler	TNT
Construction	Cement

VC SHEET METAL "TURTLE" MINE

PERSPECTIVE



RIGHT VIEW

VC SHEET METAL "TURTLE" MINE

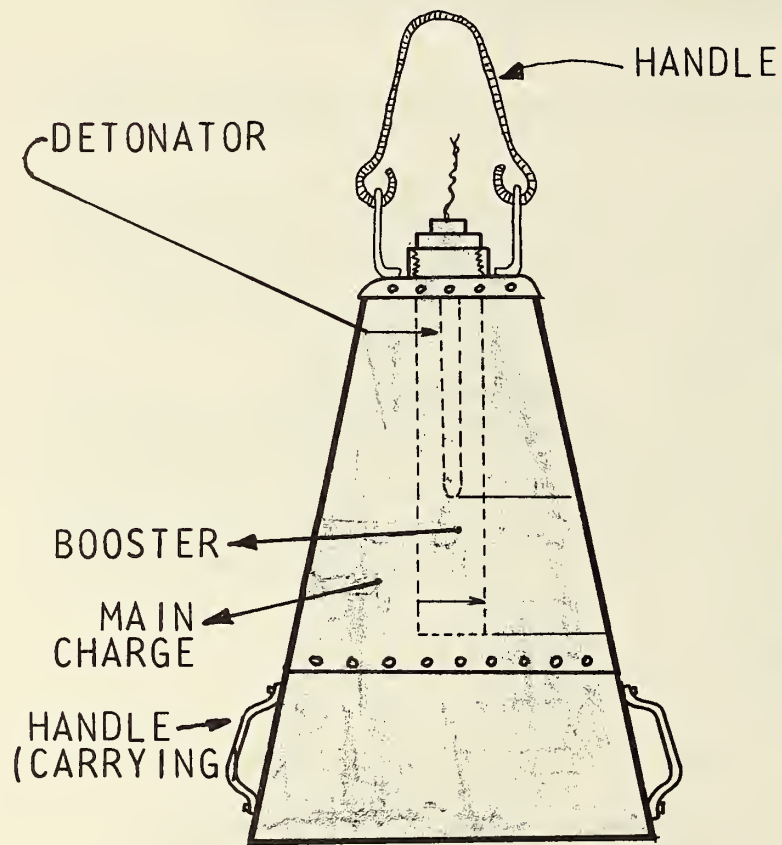
This "Turtle" mine is constructed of four separate pieces of sheet metal riveted together at the seams and coated with a waterproofing compound. A detonator well is located in the end of the mine.

FUNCTIONING. This mine is fired both electrically and mechanically. The electrical detonator is placed in the fuze well and sealed in the wax or tar. The current for the detonator is supplied by a battery pack or hand held generator. The mechanical device is usually a pull release device operated remotely with a pull or trip wire.

DISARMING. Cut the two electrical leads, one at a time, approximately 15 cm (6 inches) from the mine body. Remove the detonator, if possible. If a mechanical firing device is employed, replace the safety pin prior to cutting any wires. Remove the firing device, if possible. If the mechanical firing device or electrical device cannot be removed safely, DO NOT transport or disturb the mine. Destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Black
Weight	9.2 kg (20 pounds)
Filler	Melinite or TNT
Weight of explosive .	3.2-3.7 kg (7-8 pounds)
Height	12.7-15.4 cm (5-6 inches)



**LARGE VC
WATER MINE**

LARGE VC WATER MINE

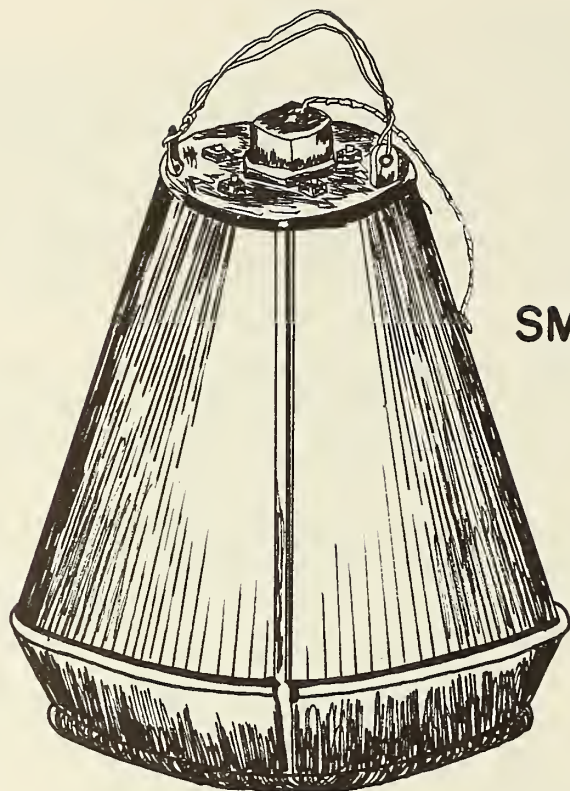
The water mine is composed of two parts, the explosives chamber and the flotation chamber, separated by a sheet metal partition. The water mine is employed against shipping in rivers and canals. The flotation chamber built into the mine serves to keep the mine off the bottom and suspended in midstream. The depth of the mine is controlled by a series of ropes from the shore. The mine is constructed of medium weight sheet metal with riveted seams. All seams are covered with a waterproofing compound.

FUNCTIONING. The mine is fired electrically from the shore using a series of batteries or a hand generator. With the approach of a ship the mine is adjusted remotely to the proper depth to give the optimum effect from the blast.

DISARMING. Cut all electrical leads leading to the mine, one at a time, approximately 15 cm (6 inches) from the mine.

CHARACTERISTICS

Weight	38.2 kg (83 pounds)
Diameter	43.7 cm (17 inches)
Height	63 cm (25 inches)
Filler	TNT
Weight of Filler	18.8 kg (41 pounds)



SMALL VC WATER
MINE

SMALL VC WATER MINE

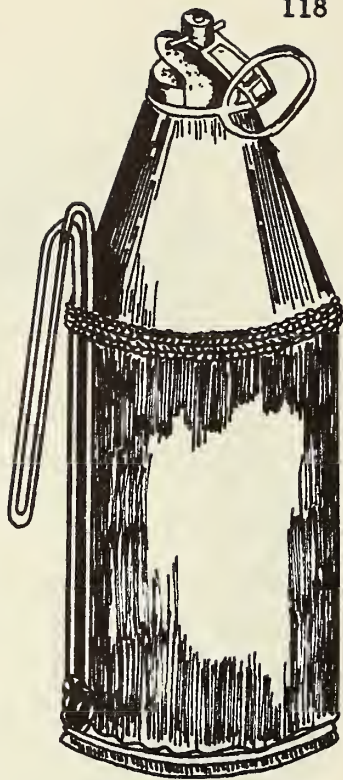
This locally manufactured water mine is of a type constructed of sheet metal, rolled into a short conical shape, and fastened with rivets.

FUNCTIONING. The mine is placed in the channel of the river or stream and adjusted in height according to the traveling depth of ships in that particular body of water. The mine is fused electrically and detonated by means of a battery pack.

DISARMING. Cut all electrical leads leading to the mine, one at a time, approximately 15 cm (6 inches) from the mine. DO NOT ATTEMPT TO REMOVE THE BOOSTER CAP OR DETONATORS FROM THE MINE.

CHARACTERISTICS

Weight	12.4 kg (27 pounds)
Height	32 cm (12 inches)
Diameter	26.7 cm (11 inches)
Filler	TNT
Weight of explosive .	6.9 kg (15 pounds)



VC ANTIPERSONNEL MINE

VC ANTIPERSONNEL MINE

This type of mine is constructed of a sheet metal container similar to a beer can and employs a standard percussion grenade fuze. The fuze usually contains no delay.

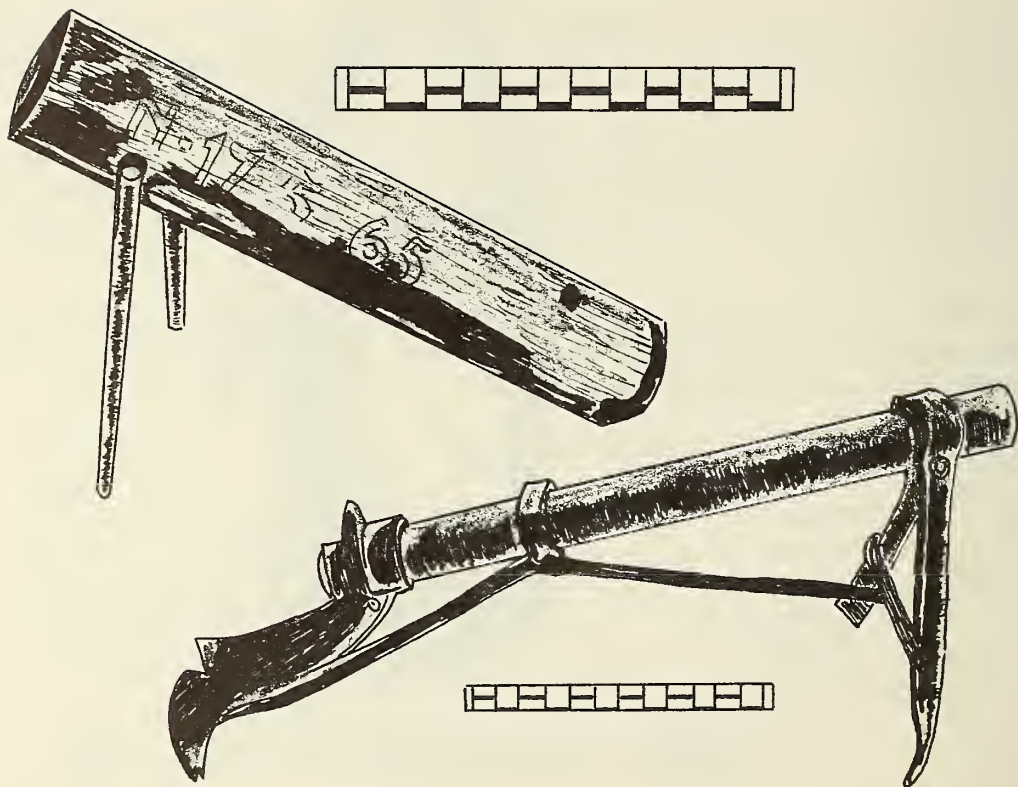
FUNCTIONING. A trip wire is attached to the pull ring on the grenade fuze. When the pull pin attached to the pull ring is removed, the striker moves downward, hitting the primer and causing the detonation of the mine.

DISARMING. No attempt should be made to disarm this mine because of the possibility of a hang fire. Destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Gray or green
Weight	0.9 kg (2 pounds)
Height	15.4 cm (6 inches)
Diameter	5 to 7.7 cm (2 to 3 inches)
Filler	TNT
Construction	Sheet metal

VC SKYHORSE

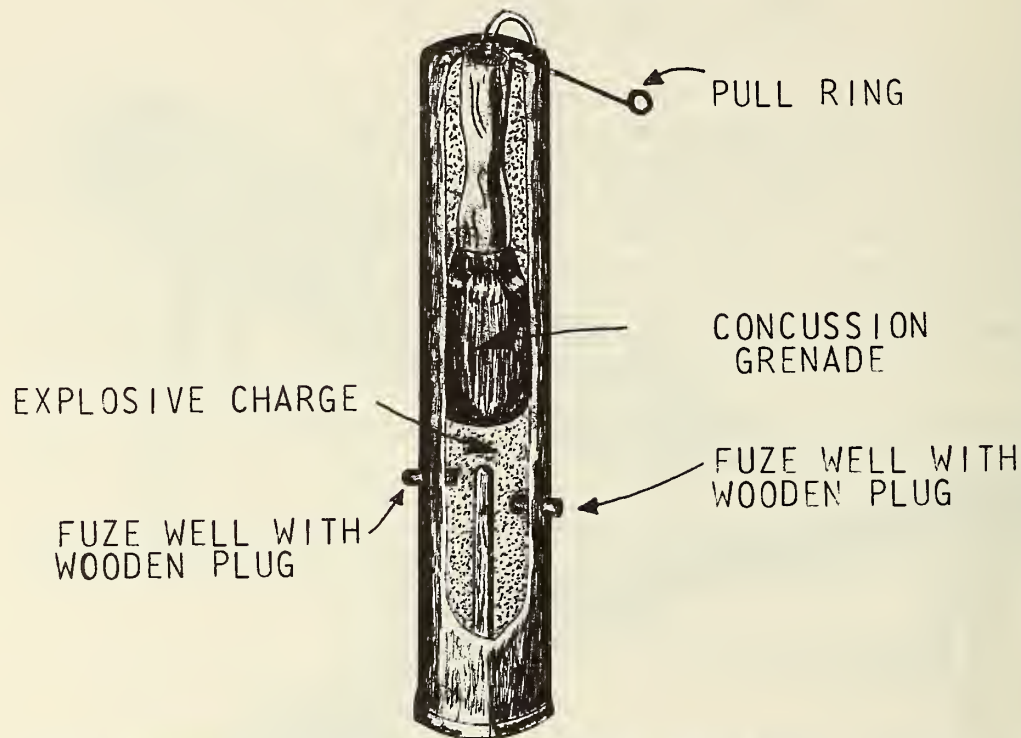


VC SKYHORSE

This improvised antipersonnel weapon is, in effect, a large sawed-off shotgun or a small cannon loaded with shrapnel. It is made from a piece of pipe about 5.1 centimeters (2 inches) in diameter and 32 to 96 centimeters (1 to 3 feet) long and closed at one end. The pipe contains an explosive charge for expelling a load of rocks, glass, nails, or barbed wire fragments, and the muzzle is sealed with wax. The weapon is used to cover a road, trail, or any other route troops may take. It has a simple mousetrap actuator, which may be fired by the enemy with a lanyard or, more commonly, by the victim himself with a trip wire.

FUNCTIONING: The weapon is fired when the retainer is pulled and the striker hits the detonator.

DISARMING: Check for booby traps. Fasten the striker arm down with tape or wire, and place a piece of tape over the detonator to prevent accidental firing.

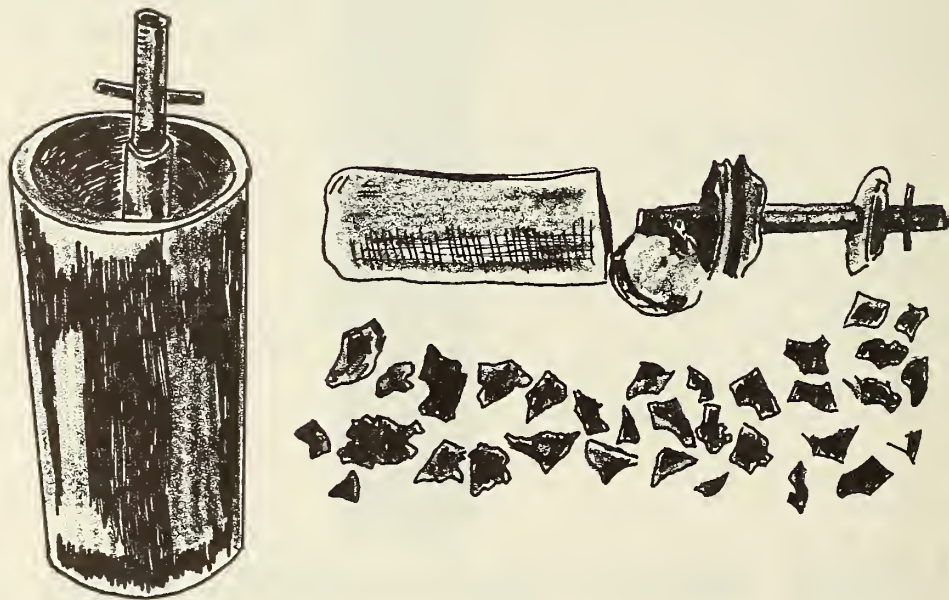


**VC MINE IMPROVISED FROM SHELL
CASE**

VC MINE IMPROVISED FROM SHELL CASE

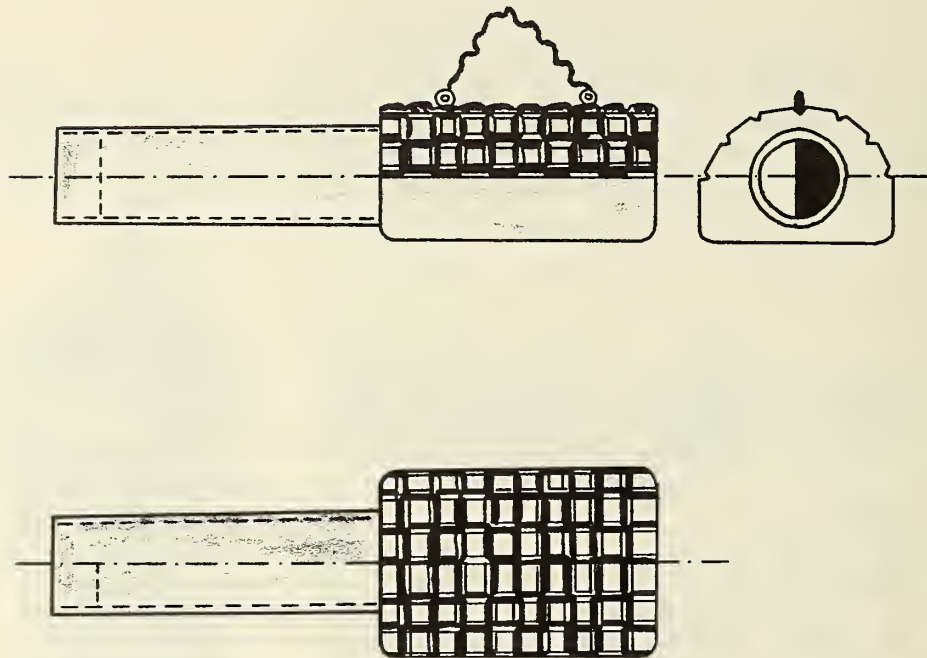
This improvised mine comprises a 75 to 105mm cartridge case filled with explosive and one stick grenade for the primary detonator device. Fuze wells have also been provided on the side of the shell casing; therefore, the improvised mine can be detonated by using any of the fuzes discussed in this booklet. The employment of these mines in most cases is against personnel.

VC "TOE POPPER" MINE



VC "TOE POPPER" MINE

These mines are fabricated of cartridge cases or pieces of pipe of various sizes, loaded with "homemade" primers and a charge of black powder. When the victim steps on the mine the igniter explodes the charge and the "buckshot" projectiles are expelled with considerable force.



**VC CYLINDRICAL CEMENT
FRAGMENTATION MINE**

VC CYLINDRICAL CEMENT FRAGMENTATION MINE

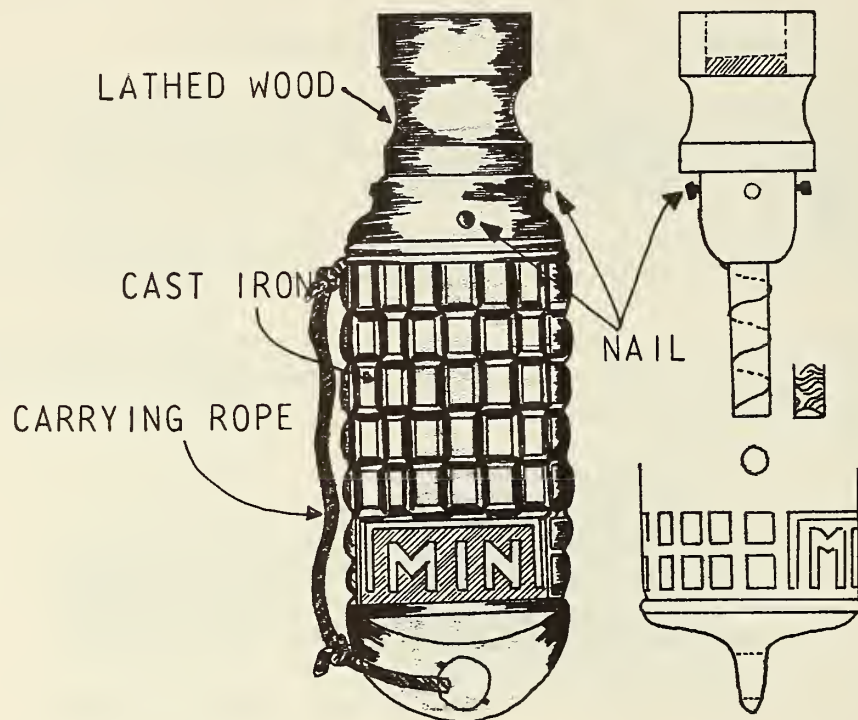
This locally manufactured cylindrical mine is constructed of cement. It incorporates a carrying handle fabricated of a 5.1 cm (2 inch) piece of pipe. The pipe also serves as the housing for the detonator.

FUNCTIONING. The mine is fused with an electrical detonator. It is usually fired remotely from a battery pack or hand held generator.

DISARMING. Cut the electrical leads, one at a time, approximately 15 cm (6 inches) from the body. Remove the detonators by lifting from the fuze wells. DO NOT force the detonators.

CHARACTERISTICS

Color	Gray
Weight	5.6 kg (13 pounds)
Length	25.4 cm (10 inches)
Height	12.7 cm (5 inches)
Filler	TNT
Construction	Iron pipe and cement



**VC CYLINDRICAL CAST IRON
FRAGMENTATION MINE**

VC CYLINDRICAL CAST IRON FRAGMENTATION MINE

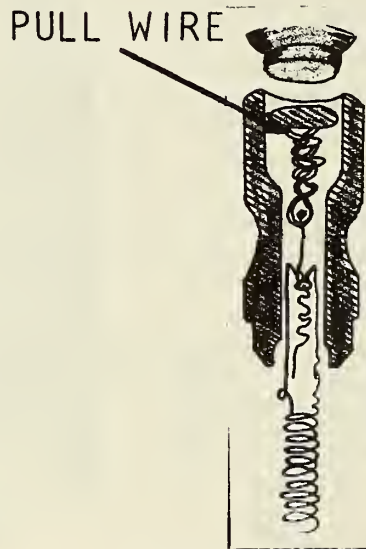
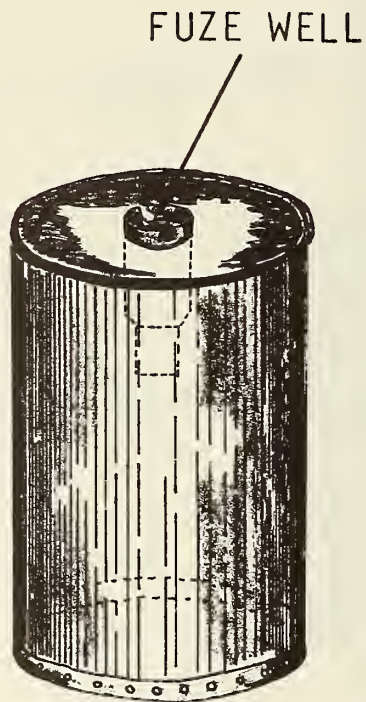
This mine is constructed of cast iron and is filled with cast TNT. The mine is similar to a stick grenade. It employs a friction igniter with a 4-second delay as the detonator device.

FUNCTIONING. A trip wire is attached to the pull wire of the friction igniter. Pressure applied to the trip wire will extract the pull wire through a match compound, igniting the delay element. Two to four seconds after the extraction of the pull wire the mine will detonate.

DISARMING. If the pull wire is present, the mine is safe. If the pull wire is missing, the mine should be considered a dud and treated accordingly.

CHARACTERISTICS

Color	Gray or black
Weight	1 kg (2.2 pounds)
Diameter	5.1 cm (2 inches)
Filler	TNT
Operation	Friction pull



FRICTION FUZE

VC CYLINDRICAL MINE

VC CYLINDRICAL MINE

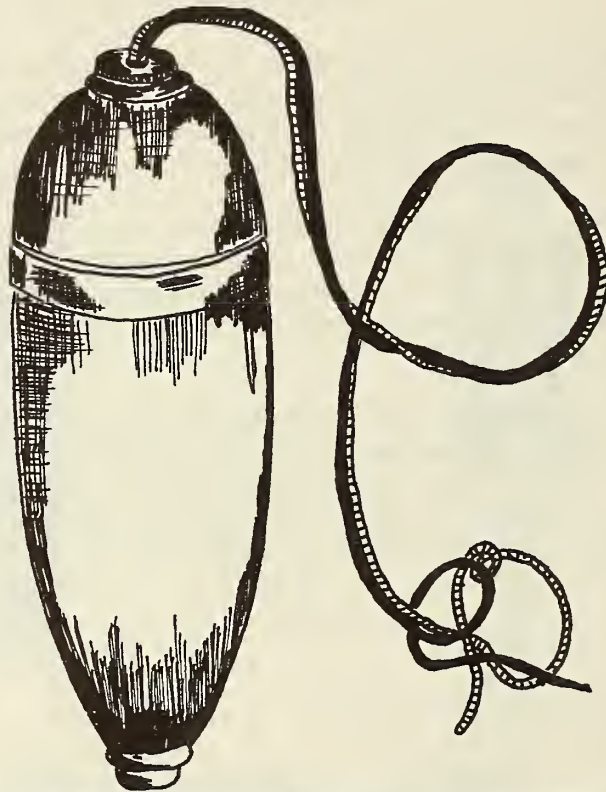
This locally manufactured mine is constructed of sheet metal or shipping containers for artillery and mortar projectiles. The mine's weight and size vary according to the type of container used. This mine can be fired electrically or mechanically.

FUNCTIONING. The electric detonator is placed in the fuze well and sealed with wax or tar. Current is supplied by a battery or hand-held generator. The alternative mechanical firing device is usually a friction igniter, which can be command detonated by a pull wire or rigged with a trip wire.

DISARMING. Electrical: Cut the electrical leads, one at a time, approximately 15 cm (6 inches) from the mine body. Remove the detonator, if possible. DO NOT force the detonator when removing. Mechanical: If the pull wire is present, the mine is safe. If the pull wire is missing, the mine should be considered a dud and treated accordingly.

CHARACTERISTICS

Color	Varies
Length	Varies
Operation	Electrical or mechanical
Filler	Any of the military explosives, potassium chlorate or TNT



VC IMPROVISED ANTIPERSONNEL & ANTITANK MINE

VC IMPROVISED ANTIPERSONNEL AND ANTITANK MINE

This type of mine is improvised from dud artillery and mortar projectiles. Depending on its size and explosive filler, it is effective against both armored vehicles and personnel. This mine is usually employed along the sides of roads and trails and detonated remotely.

FUNCTIONING. The projectile fuze is removed and a hole is drilled into the explosive to accept an electrical detonator. The mine is detonated remotely by an electrical charge from a battery pack or hand held generator.

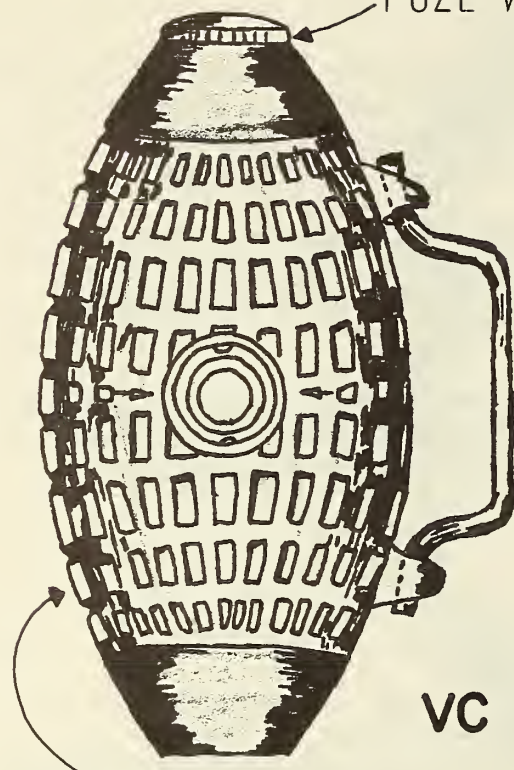
DISARMING. Cut the electrical leads to the detonator, one at a time, approximately 15 cm (6 inches) from the projectile or mine. This mine should be destroyed in place or explosive ordnance disposal personnel should be notified.

CHARACTERISTICS

Color	Varies
Weight	Varies
Explosive	TNT or any type of military explosive may be found in these types of improvised mines.

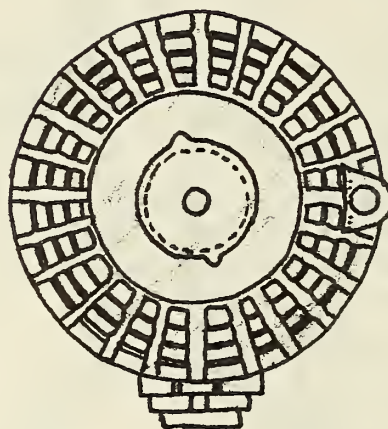
FRONT VIEW

FUZE WELL



CAST IRON

TOP VIEW



**VC CAST IRON FRAGMENTATION
ANTITANK MINE**

VC CAST IRON FRAGMENTATION ANTITANK MINE

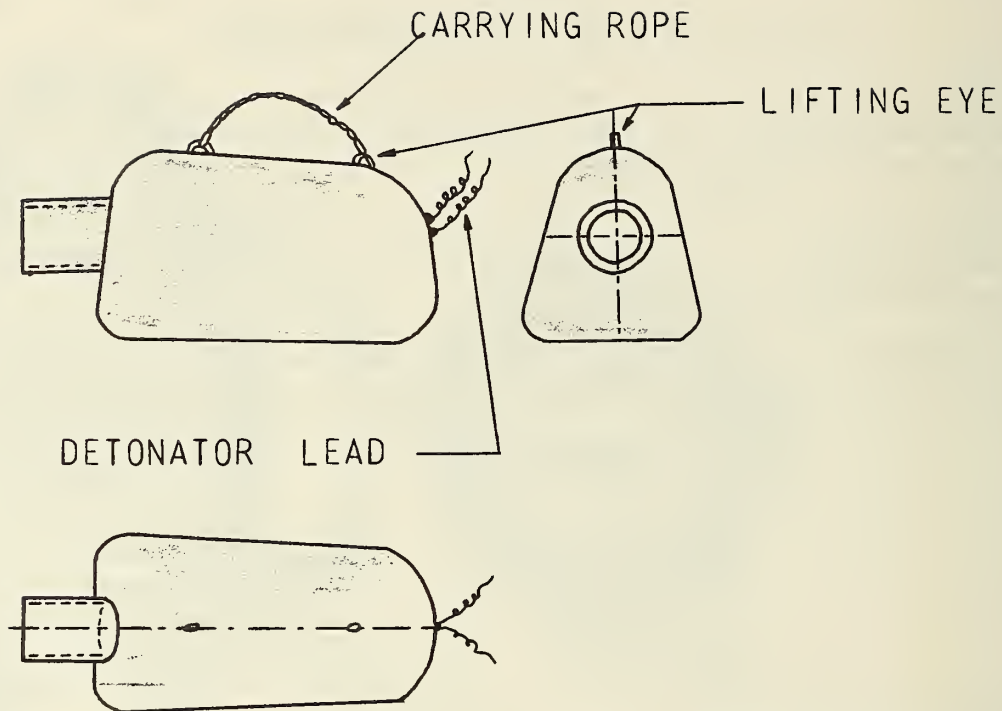
This egg shaped mine is constructed of cast iron with serrations on its outer surface. The mine incorporates a handle for carrying. The detonator well is located in the end.

FUNCTIONING. The mine is fused with an electrical detonator and is controlled remotely. Current for the detonator is supplied by a battery pack or hand held generator.

DISARMING. Cut the electrical detonator leads, one at a time, approximately 15 cm (6 inches) from the mine. Remove the detonators if possible.

CHARACTERISTICS

Color	Gray
Weight	5.5 kg (12 pounds)
Length	22.9 cm (9 inches)
Diameter	12.7 cm (5 inches)
Filler	Melinite or TNT
Operation	Electrical



VC "MOUND" SHAPED MINE

VC "MOUND" SHAPED MINE

This mine is constructed of cement and is similar to other mines covered in this booklet.

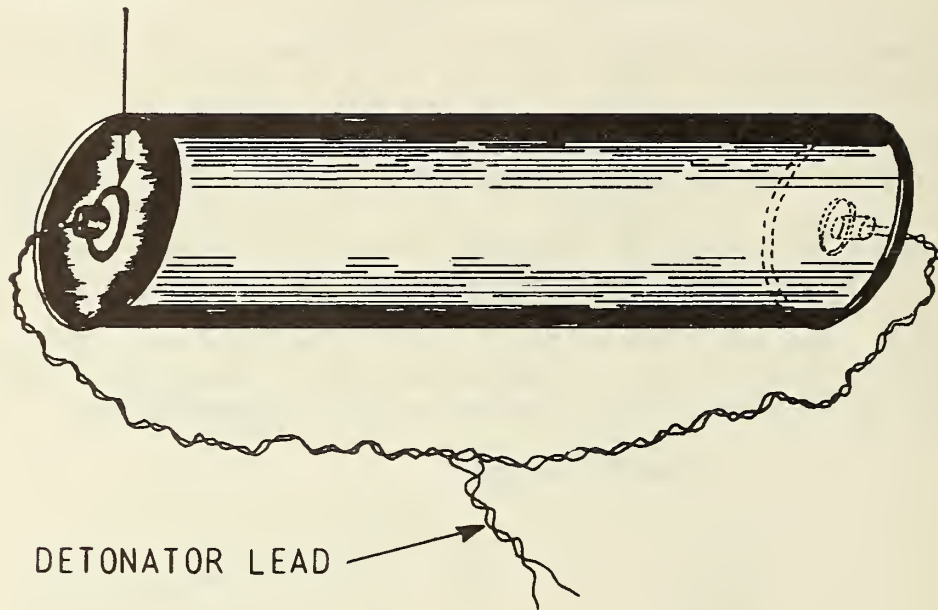
FUNCTIONING. The mine is fuzed electrically and incorporates one detonator well encased in an iron pipe. The pipe is located in the end of the mine housing. The detonator is placed in the pipe fuze well and is sealed with a waterproofing compound. The mine is fired by means of a battery pack or hand held generator.

DISARMING. Cut the two electrical leads, one at a time, approximately 15 cm (6 inches) from the body of the mine. Remove the detonator, if possible. DO NOT force the detonator out of the fuze well.

CHARACTERISTICS

Color	Gray
Weight	6 kg (13 pounds)
Length	34.9 cm (13 3/4 inches)
Diameter	14 cm (5½ inches)
Filler	TNT
Operation	Electrical

DETONATOR



DETONATOR LEAD

VC ROUND VOLUME MINE

VC ROUND VOLUME MINE

This mine is constructed of sheet metal with all seams welded.

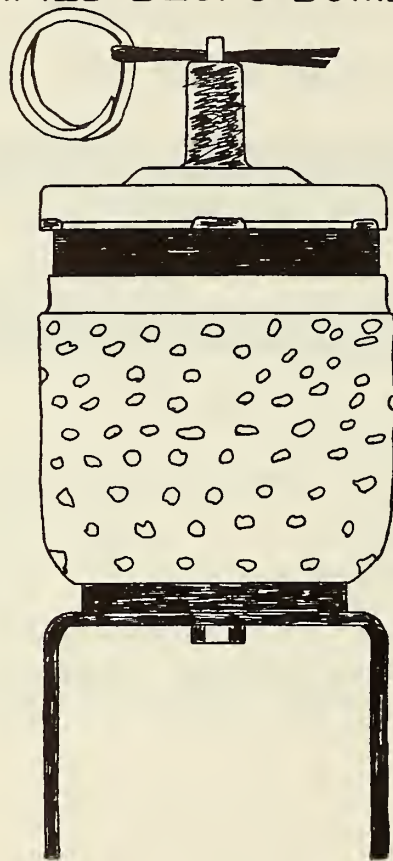
FUNCTIONING. The mine is fuzed electrically and employs two detonators located in the ends of the mine. The mine is fired by means of a battery pack or hand held generator.

DISARMING. Cut the leads to the detonators, one at a time, 15 cm (6 inches) from the mine. Remove the detonator, if possible. Otherwise, destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Dark Green
Length	43 cm (17 inches)
Diameter	11.5 cm (5 inches)
Operation	Electrical
Overall weight	7 kg (15 pounds)
Weight of explosive charge	6 kg (13 pounds)
Type of explosive charge.	Melinite

MODIFIED BLU/3 BOMBLET



MODIFIED BLU/3 BOMBLET

The BLU/3 Air Force Bomblet is being picked up by the NVA-VC, being stripped down, and rigged with a pull-release device which fires instantaneously. A prefabricated metal stand, approximately 16 cm high, is attached to the bottom of the bomblet. The firing device used is the standard CHICOM grenade fuze rigged with a pull ring and trip wire.

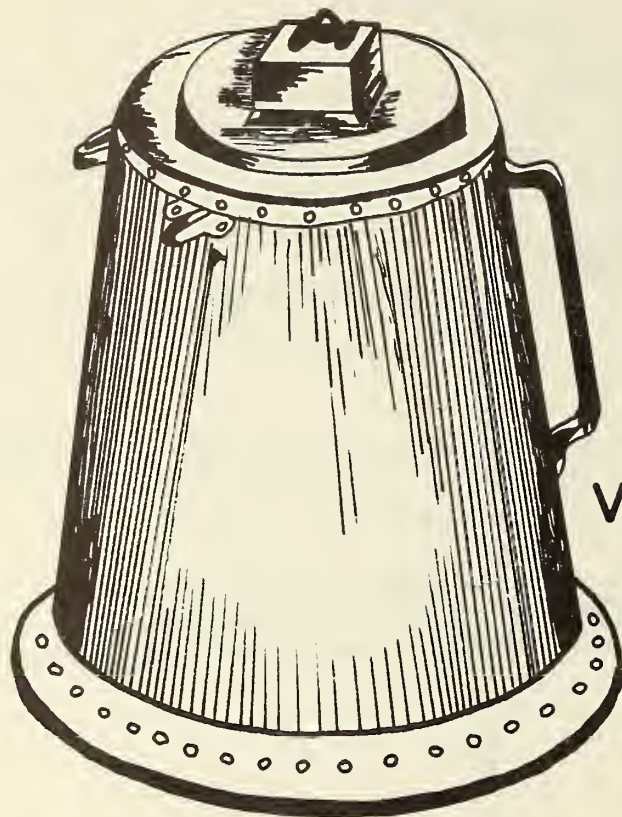
FUNCTION. When pin is pulled, a spring loaded firing pin is driven into the detonator, firing the round.

CHARACTERISTICS

Markings None on fuze; all markings on bomblet are US.

Fuzing Pull-release, instantaneous

CAUTION. When found, the area around the bomblet should be carefully checked. BLU/3 bomblets are also being used as antipersonnel mines. They are buried in the ground and the standard bomblet fuze serves as a pressure actuated device.



**VC NON-ELECTRICAL
SHAPED CHARGE
MINE**

VC NON-ELECTRICAL SHAPED CHARGE MINE

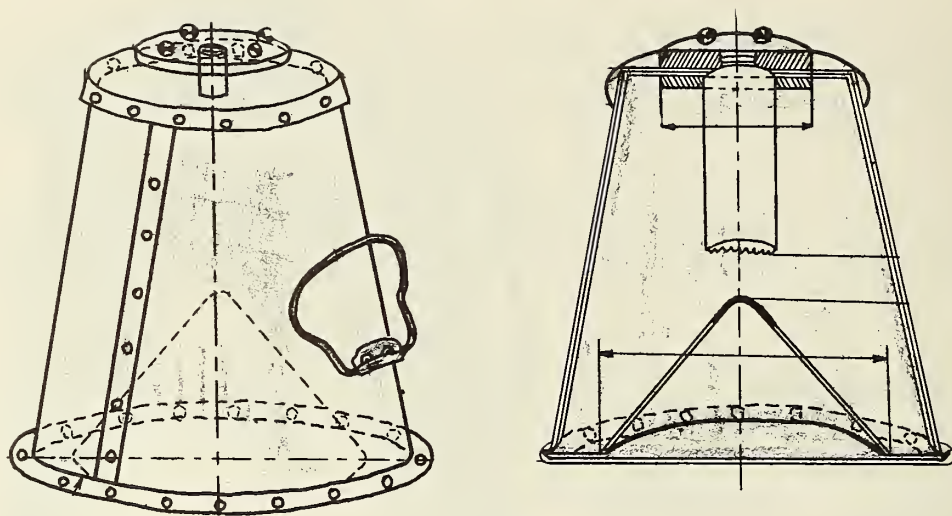
This mine is constructed of sheet metal and employs a sheet metal cone for a shaped charge effect. The mine is employed with two friction pull igniters incorporating a nine second delay. The mine is usually employed as a demolition device by VC saboteurs.

FUNCTIONING. The mine is placed at the target and the two pull wires on the fuze are extracted. This action initiates the nine second delay powder train. The delay train flashes to the detonator, causing detonation of the mine.

DISARMING. No attempt should be made to disarm this mine since boobytraps are sometimes built into the fuzing mechanism. Destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Varies
Length	20.3 cm (8 inches)
Diameter at widest point	22.9 cm (9 inches)
Weight	6.9 kg (15 pounds)
Filler	TNT or very sensitive homemade explosives
Weight of explosive . .	3.7-6.9 kg (9 pounds)



**VC ELECTRICAL ANTIVEHICULAR
SHAPED CHARGE MINE**

VC ELECTRICAL ANTIVEHICULAR SHAPED CHARGE MINE

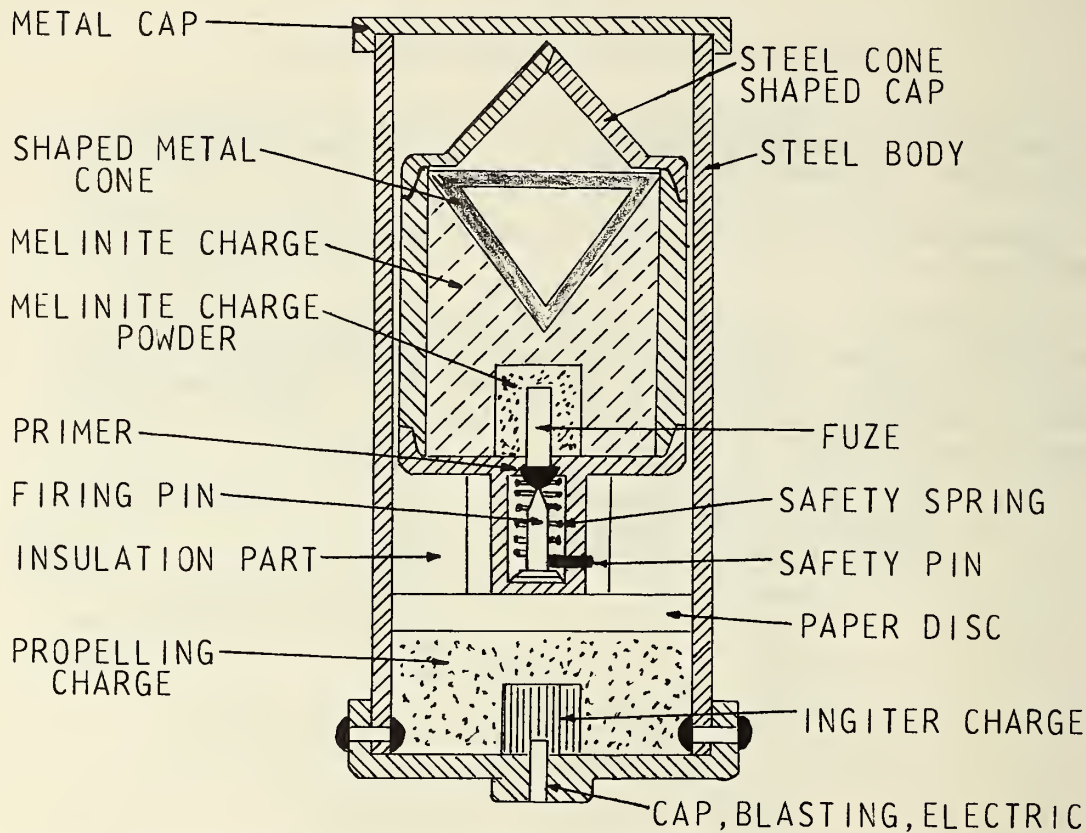
This short, pyramidal shaped charge is employed against armored vehicles and reinforced fortifications. It is constructed of sheet metal and fastened at the seams by rivets or welding.

FUNCTIONING. This mine is usually detonated electrically from an ambush position.

DISARMING. Cut the electrical leads leading into the fuze of the mine, one at a time, approximately 15 cm (6 inches) from the fuze. In case of a mechanical fuze, replace the safety pin. If the type of fuze cannot be determined destroy the mine in place or notify explosive ordnance disposal personnel.

CHARACTERISTICS

Color	Black
Weight	7.8 kg (17-18 pounds)
Diameter	20.3-25.4 cm (8-10 inches)
Length	20.3-25.4 cm (8-10 inches)
Filler	TNT
Weight of explosive . .	5.1 kg (11 pounds)



VC BOUNDING BAXOMINE SHAPED CHARGE MINE

VC BOUNDING BAXOMINE SHAPED CHARGE MINE

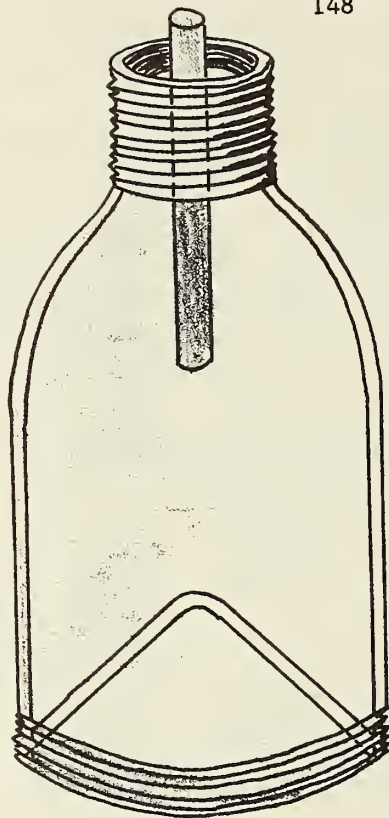
This is a shaped charge mine employed as an antitank or antivehicular mine. This mine is constructed of steel pipe riveted to a metal base.

FUNCTION. This type bounding mine is placed in a container after the safety pin has been removed. The functioning of the electric blasting cap will make the propelling charge explode and propel the mine upwards. When the mine hits something the firing pin will hit the primer, exploding the main charge.

DISARMING. Cut all electrical leads leading to the mine one at a time, and remove the blasting cap.

CHARACTERISTICS

Weight	Approx 2.0 kg (4.4 pounds)
Diameter of mine . . .	15 cm (5.5 inches)
Height	25 cm (9.8 inches)
Diameter of body . . .	17 cm (6.7 inches)
Height of body	30 cm (11.8 inches)
Body of mine	Steel
Cap for mine	Cast Iron
Bursting Charge . . .	Composition of melinite



VC IMPROVISED SHAPED CHARGE

VC IMPROVISED SHAPED CHARGE

This is an improvised shaped charge made of copper metal. It is used for sabotage or against personnel in an ambush. Detonation is by either electrical or non-electrical firing device.

CHARACTERISTICS

Color	Black
Weight	5.05 kg (11 pounds)
Explosive charge . . .	TNT
Body	Copper

CHICOM GRENADE



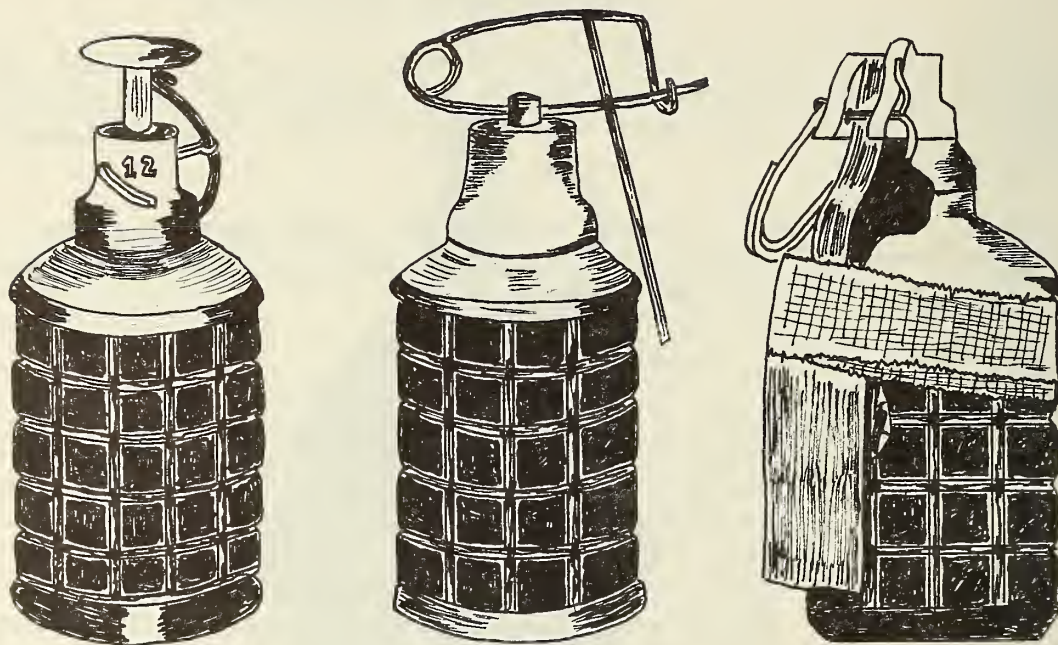
CHICOM GRENADE

This grenade is the CHICOM copy of the Russian RCD-5 grenade which resembles the US M-26 grenade. This is a fragmentation type grenade with an egg-shaped sheet metal body which incloses a smooth fragmentation liner.

FUNCTION. Safety lever and striker are under spring tension. With safety pin removed, the spring tension releases the safety lever permitting the firing pin to be driven into the primer.

CHARACTERISTICS

Type	Fragmentation
Weight	3.2 kg (6.8 pounds)
Height	11.4 cm (4.5 inches)
Maximum dia	5.3 cm (2.1 inches)
Body	Sheet metal
Filler	TNT
Filler weight	110 grams (3.9 ounces)
Fuze delay	3 to 4 seconds

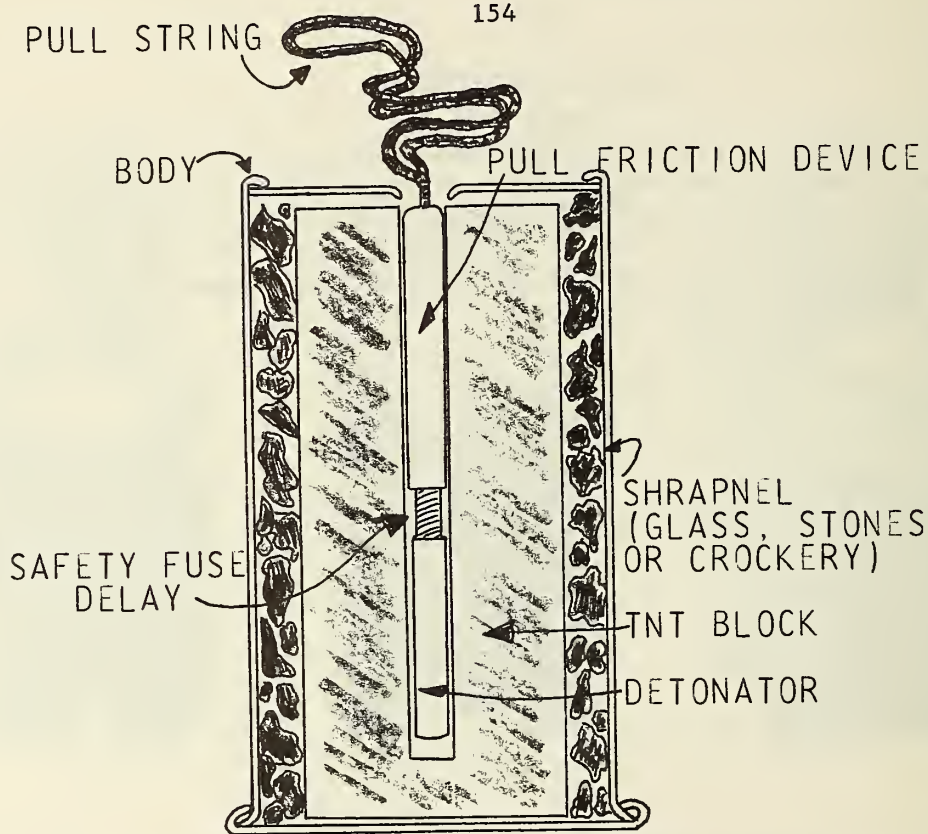


MODIFIED VC GRENADE

MODIFIED VC GRENADE

VC grenades containing instantaneous firing elements have been tested and found to fire immediately upon release of the firing pin. Items shown on the previous page were marked on top of the fuze section with a red paint dot. It should be assumed that all VC or CHICOM grenades bearing any paint markings contain instantaneous firing elements and are to be handled accordingly.

DISARMING. Blow in place.



EXPLOSIVE DEVICE (FRAGMENTATION)

EXPLOSIVE DEVICE
(Fragmentation)

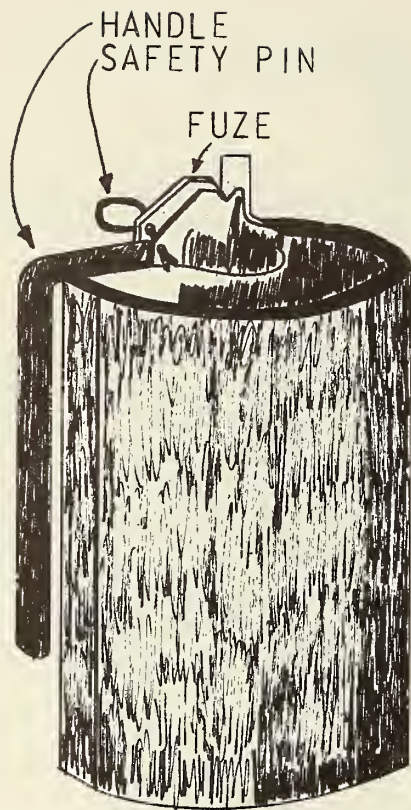
This device is designed to be employed as a hand grenade or anti-personnel mine. The body consists of a cylindrical container of light sheet metal or tin with end pieces that are secured by crimping.

FUNCTION. Initiating Device, pull friction (coated wire and match composition). A 3 to 4 second French Safety fuze is used for delay. This device contains no booster; the charge is made from shaved blocks of French cast explosive and TNT. Fragments are of glass, pottery, or metal located between the explosive and the walls of the body. A rapid and continuous pull on the string will ignite the safety fuze. Used as an antipersonnel mine, the charge is secured to the ground or an object and a trip wire is attached to the string.

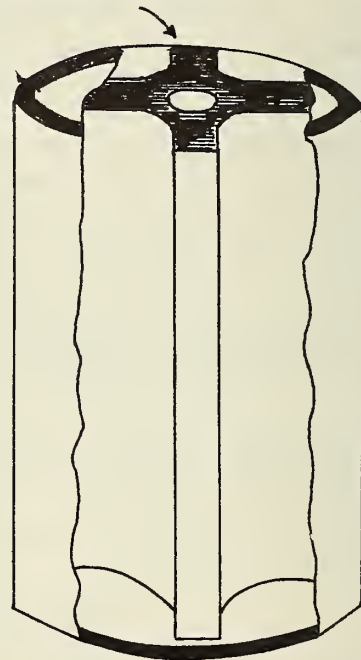
DISARMING. The fact that these items are hand made from various sources requires that extreme caution be used at all times while handling.

CHARACTERISTICS

Height	11.4 cm ($4\frac{1}{2}$ inches)
Width	6.3 cm ($2\frac{1}{4}$ inches)
Body	TNT



SHAPED CHARGE



VC FOUR-SIDED SHAPED CHARGE HAND GRENADE

VC FOUR-SIDED SHAPED CHARGE HAND GRENADE

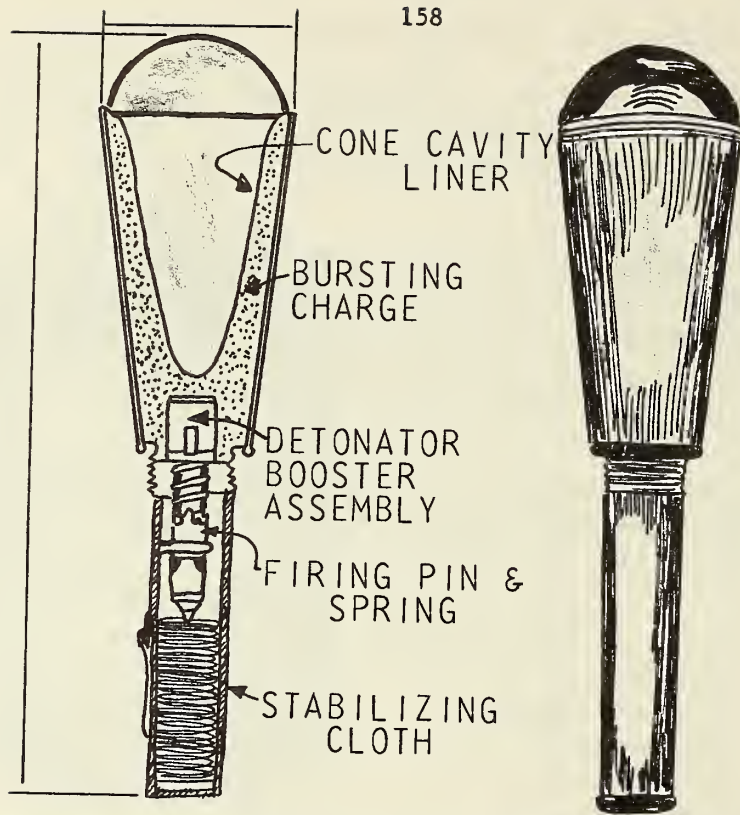
This grenade may be thrown, placed or used as a boobytrap. The grenade is cylindrical in shape and is constructed by soldering a shaped insert to the bottom and then attaching the sides and top. The insert is made of one piece of metal.

FUNCTIONING. Upon removal of the safety pin, the grenade is thrown. The handle, upon release, allows the cocked striker to hit the delay igniter. The delay sets off the detonator which sets off the main charge. The four-sided shaped charge concentrates the force of the explosion away from the center of the grenade, increasing its ability to inflict casualties.

DISARMING. If the safety lever and safety pin are in place, remove to a safe disposal area for destruction. In any other condition, blow in place.

CHARACTERISTICS

Color	OD
Shaped charge	HE, crushed or powdered tritonal
Markings	None on body; letters AT on fuze
Fuze material	Pot metal with steel handle VC
Height	15.8 cm (6 $\frac{1}{4}$ inches)
Width	7.9 cm (3 $\frac{1}{8}$ inches)
Body	0.3 cm (1/8-inch steel)
Weight	Varies



SOVIET ANTITANK HAND GRENADE, TYPE RPG-6

SOVIET ANTITANK HAND GRENADE, TYPE RPG-6

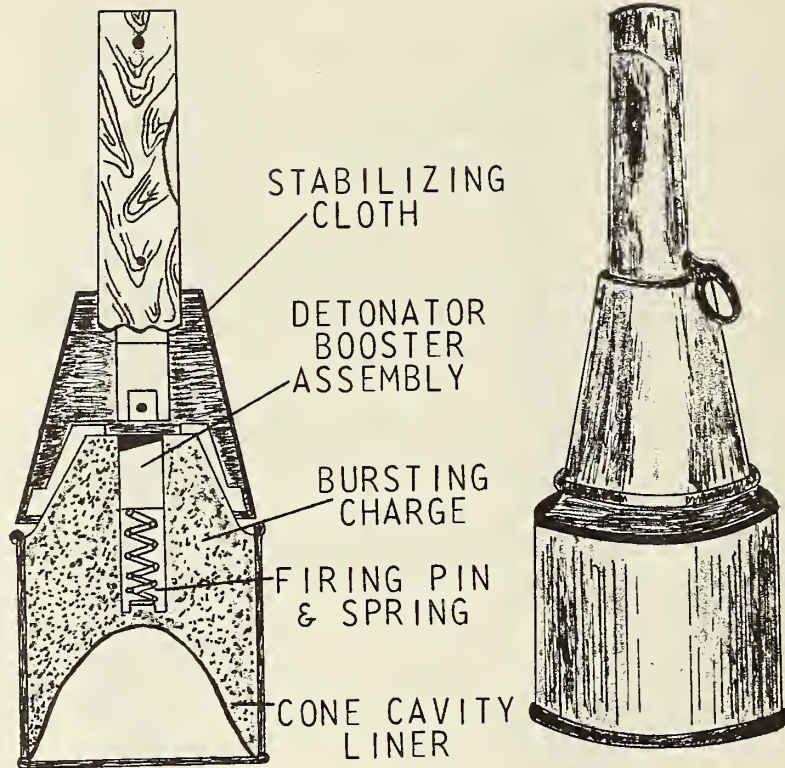
This antitank hand grenade, RPG-6, is a shaped charge type grenade which can be used against personnel because of its fragmentation effect. For this reason the grenade is thrown from cover.

In throwing, the grenade handle and safety lever are held tightly in one hand and the safety pin is pulled with the other. When thrown, the grenade is stabilized by four pieces of parachute cloth that fly out of the handle as the safety lever is ejected.

This grenade explodes on impact. Unlike the RPG-3, this grenade has a crescent-shaped head and its handle is made of sheet metal instead of wood.

CHARACTERISTICS

Type	HE
Use	Antitank and antibunker
Weight, incl. fuze	1.02 kg (2.4 pounds)
Overall length	343 mm (13.5 inches)
Fuze	Impact
Avg. throwing distance . .	18 meters (19 yards)
Penetration	100 mm (3.94 inches)
Fragmentation radius . . .	20 meters (21 yards, approx.)



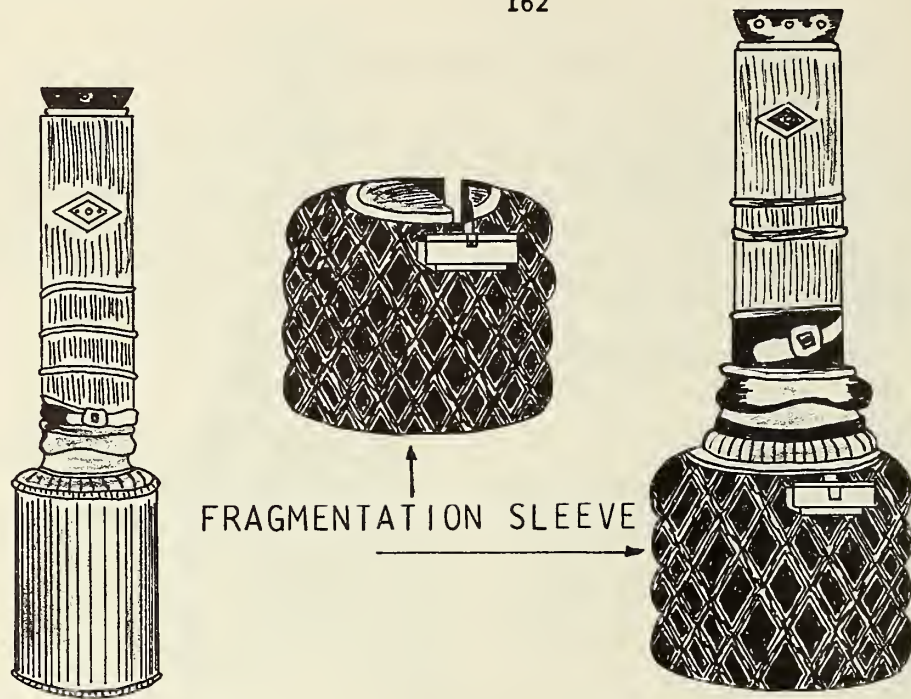
**SOVIET RPG-43 ANTI-TANK
HAND GRENADE**

SOVIET RPG-43 ANTITANK HAND GRENADE

The RPG-43 hand grenade is an antitank grenade that is also used against armored cars and fortified positions. It is characterized by a large cylindrical body, wooden handle and steel parachute cone. The grenade explodes upon impact and has an equilibrium device to insure that the grenade strikes on its head. This device consists of a steel cone and two pieces of cloth that trail behind the grenade when it is thrown.

CHARACTERISTICS

Type	HF
Use	Against tanks, fortifications
Weight (including fuze)	1.203 kg (2.65 lbs)
Overall length	30 cm (11.78 inches)
Fuze	Impact
Fragmentation radius	22 yards



**SOVIET RGD-33
DEFENSIVE & OFFENSIVE HAND GRENADE**

SOVIET RDG-33 OFFENSIVE & DEFENSIVE HAND GRENADE

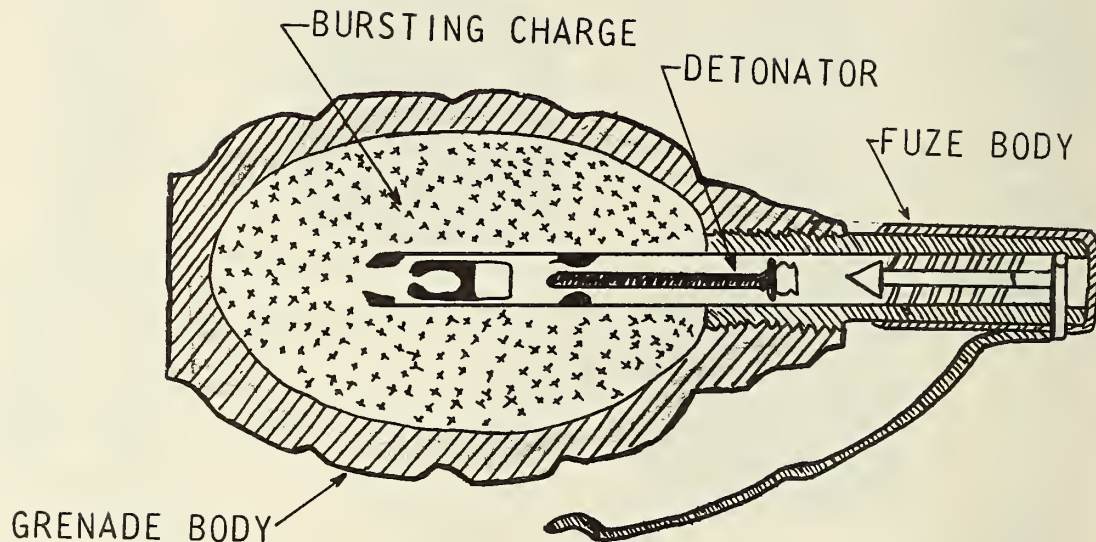
The RGD-33 offensive/defensive hand grenade is a dual purpose grenade. As an offensive grenade, it has a 5.5 yard lethal radius. By adding a fragmentation sleeve, it becomes a defensive grenade which has a 27 yard lethal radius. This sheet metal grenade is normally painted olive brown.

The grenade is thrown vigorously. A spring in the handle forces the body back quickly and the firing pin strikes the primer actuating the delay element.

CAUTION. Duds are dangerous and should be destroyed in place as the slightest vibration may set them off.

CHARACTERISTICS

	<u>Offensive grenade</u>	<u>Defensive grenade</u>
Weight	0.496 kg (1.1 pounds)	0.659 kg (1.7 pounds)
Length	190mm (7.5 inches)	190mm (7.5 inches)
Diameter	45mm (1 7/8 inches)	52mm (2.1 inches)
Effective frag radius	5 meters (6 yards)	25 meters (27 yards)
Time fuze	3-4 sec/delay	3-4 sec/delay



SOVIET DEFENSIVE HAND GRENADE
TYPE F-1

SOVIET DEFENSIVE HAND GRENADE TYPE F.1

The F.1 type hand grenade is similar in appearance and operations to those of the US MK.2 grenade. Its case is of serrated cast iron and painted olive drab.

To use, the grenade body, with safety lever, is held with one hand and its safety pin is pulled with the other. When thrown, the safety lever of the grenade springs up, loosening the spring of the firing pin which ignites the primer. This initiates the delay fuze which explodes the grenade.

CHARACTERISTICS

Type	Defensive, serrated cast iron
Use	Antipersonnel
Weight	0.690 kg (1.54 pounds)
Length	124mm (4.87 inches)
Diameter	55mm (2.1 inches)
Fuze delay	3 to 5 seconds
Average throwing range .	33 to 45 m (34 to 47 yds, approx)
Effective fragmentation radius	14 meters (16 yards, approx)

SOVIET RPG-40 HAND GRENADE



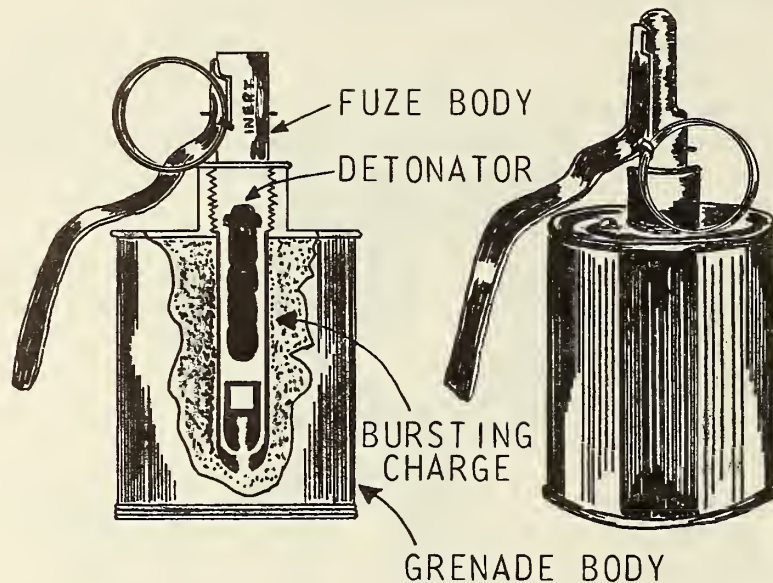
SOVIET RPG-40 HAND GRENADE

This grenade is normally used against lightly armored vehicles. It is made of sheet metal and contains a TNT charge. The primer-detonator is inserted into the grenade before the grenade is thrown. The igniting device is placed inside the handle of the grenade which is tightly screwed into the top of the grenade. When the safety pin is removed and the safety lever released, the grenade is in the armed position.

CAUTION. Under no circumstances should dud grenades of this type be picked up as the fuze is armed and the slightest vibration will set it off.

CHARACTERISTICS

Type	Offensive
Use	Antitank
Weight	1.205 kg (2.7 pounds)
Length	200mm (7.87 inches)
Diameter	95mm (3.75 inches)
Effective fragmentation radius	20 meters (22 yards)
Fuze type	Impact/instantaneous



**SOVIET OFFENSIVE HAND GRENADE
TYPE RG-42**

SOVIET OFFENSIVE HAND GRENADE TYPE RG-42

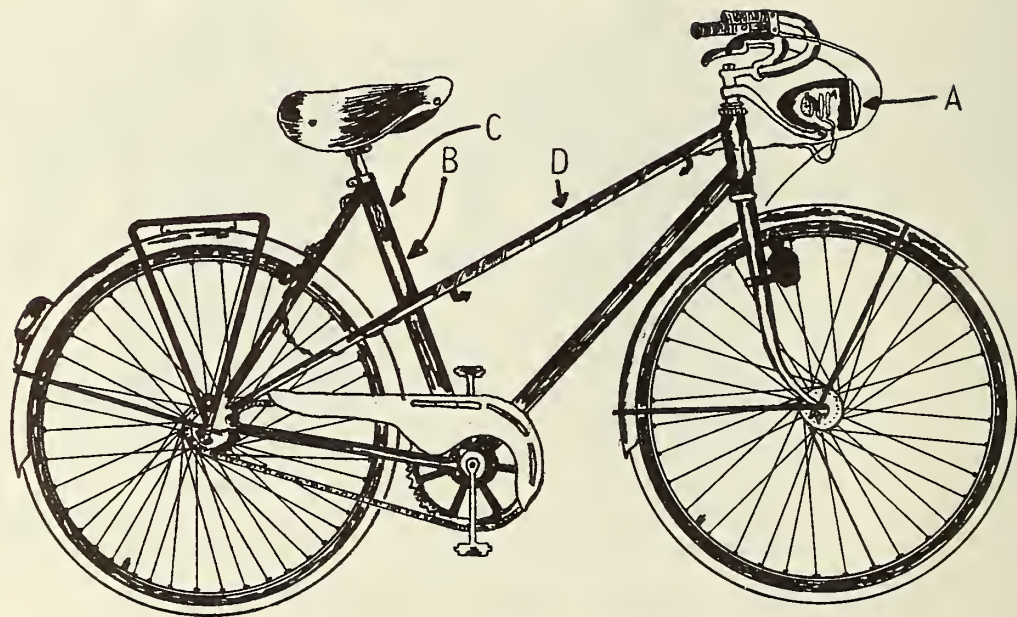
This grenade has a sheet metal cylindrical body containing 99 grams of TNT.

To throw the grenade, the safety lever is held tightly against the grenade body with one hand and the safety pin is pulled with the other. When the grenade is thrown, the safety lever will spring upward and leave the grenade body. The firing pin strikes the primer which ignites the time fuze and sets off the grenade.

CHARACTERISTICS

Type	Offensive
Use	Antipersonnel
Weight	400 grams (.88 pounds)
Overall length	127mm (5 inches)
Diameter	53mm (2.2 inches)
Time delay	3-4 seconds
Average throwing range . .	30 to 40 m (32-42 yards, approx)
Dangerous radius	15 to 20 m (16-22 yards, approx)

- A. TIMING DEVICE & BATTERIES
- B. EXPLOSIVE
- C. DETONATOR
- D. ELECTRICAL WIRES



VC BICYCLE MINE

VC BICYCLE MINE

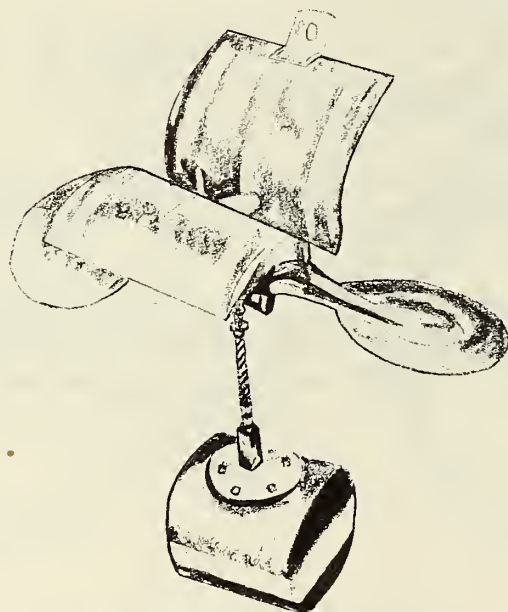
This bicycle is used as a sabotage device. It is fuzed and fired electrically by means of a watch time delay device or by means of the bicycle generator.

FUNCTIONING. The explosives within the bicycle frame will detonate when the preset time on the watch delay device has expired, or when the bicycle generator is placed in the circuitry and the bicycle is operated at sufficient speed to generate the required current.

CAUTION. Never rotate the wheels, push, or ride a bicycle suspected of being mined. DO NOT attempt to remove the detonators or disassemble any part of the bicycle.

DISARMING. Cut all wires located on the external part of the frame and head lamp assembly. Place the generator away from the wheel. Destroy the mine or notify explosive ordnance disposal personnel for assistance.

U.S. BUTTERFLY BOMB (BOMB, FRAGMENTATION M83)



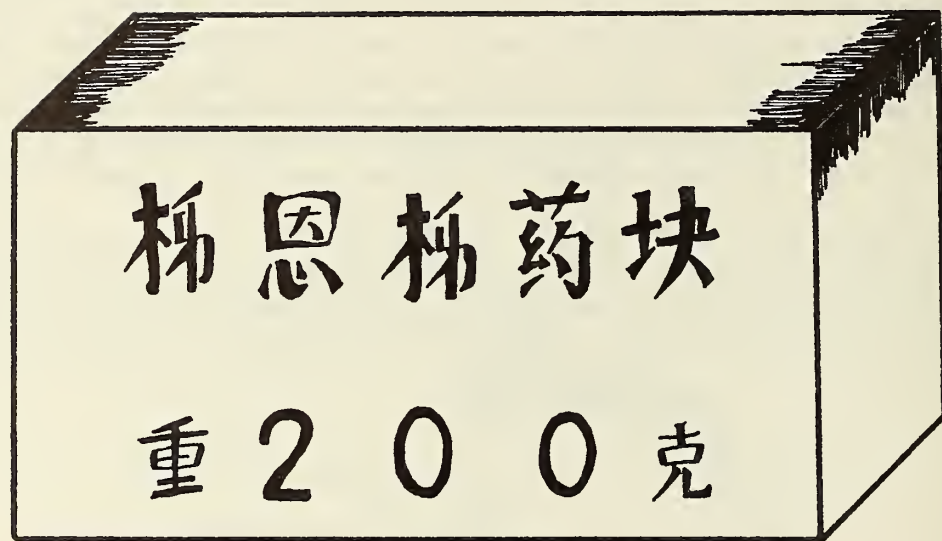
US BUTTERFLY BOMB (Bomb, Fragmentation M83)

Although the butterfly bomb is not classified as a mine, its functioning is sometimes similar to that of a mine. Butterfly bombs may be found in areas formerly occupied by the enemy. They can be fitted with several different types of fuzes. Some explode in the air, some upon impact and some have time fuzes which may be set from one to thirty minutes. Others may be set to explode when bumped or touched. Sometimes even the ground vibrations of a person walking nearby will detonate one of these bombs.

If you see one of these bombs -- DO NOT GO NEAR IT -- DO NOT TOUCH IT -- LEAVE IT ALONE. Warn those in your vicinity and notify the proper authority so that an explosive ordnance disposal specialist may be called. Only explosive ordnance disposal personnel may remove or dispose of these bombs.

CHARACTERISTICS

Weight	1.8 kg (4 pounds)
Filler	TNT
Color	OD with yellow markings



CHICOM TNT DEMOLITION BLOCK

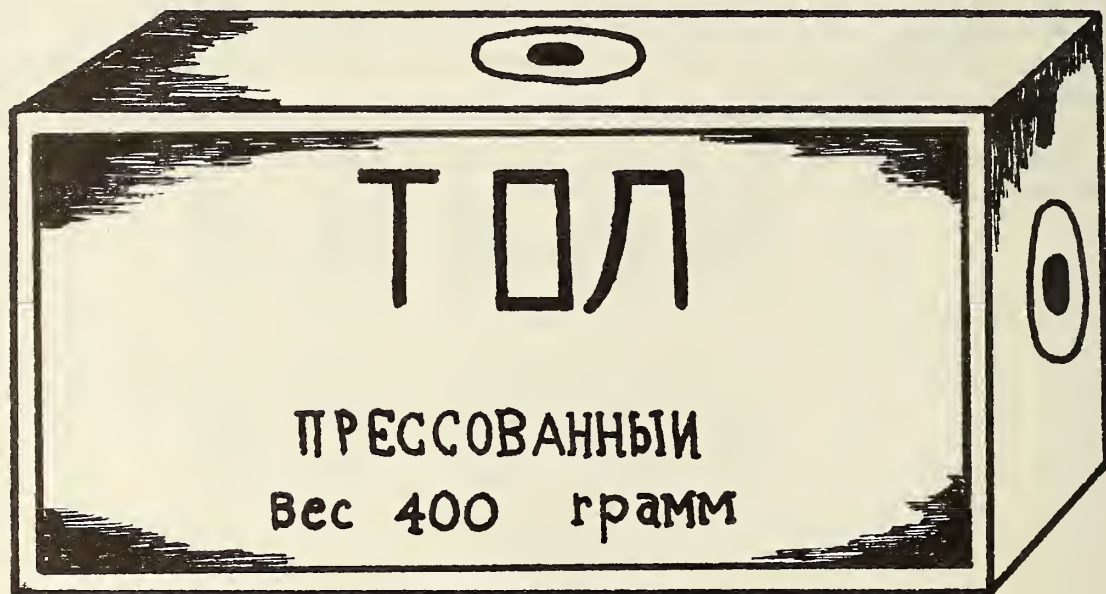
CHICOM TNT DEMOLITION BLOCK

The Chicom TNT demolition block is rectangular in shape, yellow in color and comes in 200 and 400 grams (.44 and .88 pounds) sizes. It is wrapped in waxed paper with a detonator well in the end of the block. The detonator well is marked on the waxed paper by a black dot. This explosive is commonly used by the VC.

FUNCTIONING. The TNT block can be fired by any of the standard or improvised firing devices.

CHARACTERISTICS

Color	Yellow
Weight	200 or 400 grams (.44 or .88 pounds)
Size	4.5 x 2.5 x 10.2 cm (1 3/4 x 1 x 4 inches)



SOVIET TNT DEMOLITION BLOCK

SOVIET TNT DEMOLITION BLOCK

The Soviet TNT demolition block is rectangular and has a detonator well in the end of the block. It is covered with waxed paper having an inscription in Russian as to the contents. This demolition block is used as a booster block for all demolition work. Its use by the VC should be anticipated.

FUNCTIONING. The block can be fired by any of the standard or improvised firing devices.

CHARACTERISTICS

Weight	0.4 kg (.96 pounds)
Size	5.1 x 5.1 x 10.2 cm (2 x 2 x 4 inches)



CHICOM RED PHOSPHOROUS

CHICOM RED PHOSPHORUS

CHICOM red phosphorus is a powder type product having only slight sensitivity. The temperature required to burn in air is 260 degrees C. At normal temperature, this substance, when mixed with potassium chlorate or potassium nitrate, increases the sensitivity.

A mixture of red phosphorus and potassium chlorate or potassium nitrate is used as an explosive filler in mines, grenades, flying bombs and mortar and artillery shells. This mixture will provide a thick screen of smoke and a mild explosive effect.

CHARACTERISTICS

Case	Sheet metal
Color	Gray
Dimensions	23 x 15 x 15 cm (9 x 6 x 6 in)
• Net weight	5 kg
Markings	Label "Red Horse" in English and Chinese characters



VC SATCHEL CHARGE

VC SATCHEL CHARGE

This VC charge is made from waterproof cloth, rope, wire or bamboo strips, 2.3 to 4.6 kg (5 to 10 pounds) of explosive, and the detonator is in the handle of a stick grenade. Extreme caution must be exercised when handling these charges, because potassium chlorate, a sensitive explosive, may be found in them.

EMPLOYMENT. These charges have been used for destroying bunkers and fortifications during enemy assaults and for other types of demolition work.

BANGALORE TORPEDO



BANGALORE TORPEDO

Although the bangalore torpedo was designed originally for the breaching of barbed wire defenses, the VC have made extensive use of it as an antitank and an antipersonnel mine.

The illustration gives an idea of the general construction of a bangalore. Other types of bangalores are being used by the VC, including locally constructed types. The appearance and the construction of all of these bangalores are generally the same.

EMPLOYMENT Enemy troops lay the torpedos on a likely vehicle or troop approach. They conceal themselves some 12 to 15 meters away in foxholes, and upon the approach of vehicles or assaulting troops the VC detonate the torpedo.

DISARMING In disarming these objects, cut any wire attached to the fuze. If a safety pin hole exists, place a small nail or piece of strong wire in it.

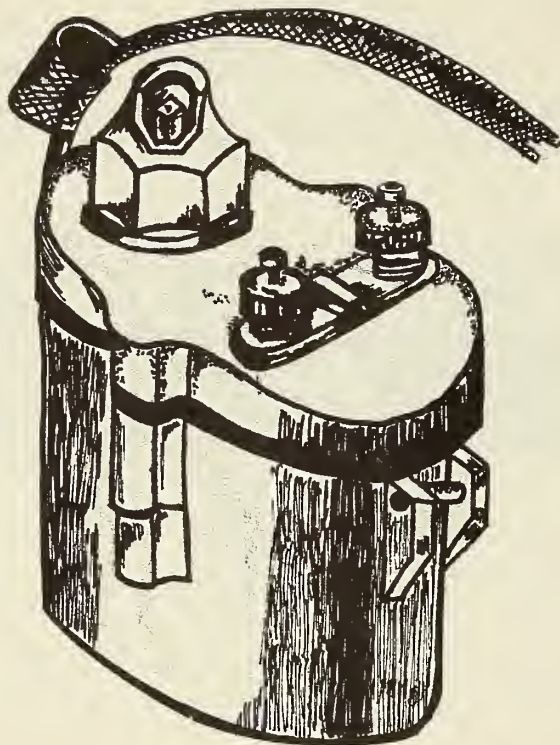
BAMBOO BANGALORE



BAMBOO BANGALORE

This device is a simple, inexpensive type of bangalore torpedo. It utilizes blocks of TNT wrapped with tarpaulin and reinforced by bamboo sticks.

FUNCTIONING. Blocks of TNT are placed end to end and wrapped in tarpaulin. Two bamboo sticks are used to reinforce the tarpaulin. A wooden plug is placed at one end and a blasting cap is placed in a hole of a TNT block at the other. Standard telephone wire is attached to the blasting cap and laid some distance away. To detonate, the two ends of the wire are put to 2 dry cell batteries of 1.5 volts.



SOVIET BLASTING MACHINE PM-2

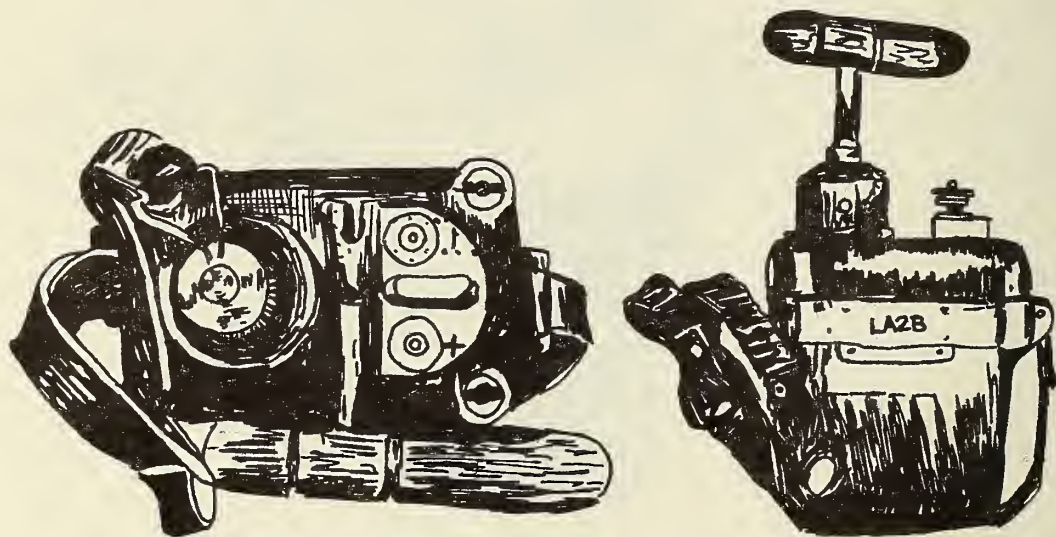
SOVIET BLASTING MACHINE PM-2

The Soviet PM-2 blasting machine is designed to fire all types of electrical blasting caps. It can fire 10 blasting caps simultaneously.

CHARACTERISTICS

Case	Metal
Height	12.1 cm (4.75 inches)
Width	9.2 cm (3.75 inches)
Weight	2 kg (4.4 pounds)

CHICOM BLASTING MACHINE LA2B



CHICOM BLASTING MACHINE LA 2B

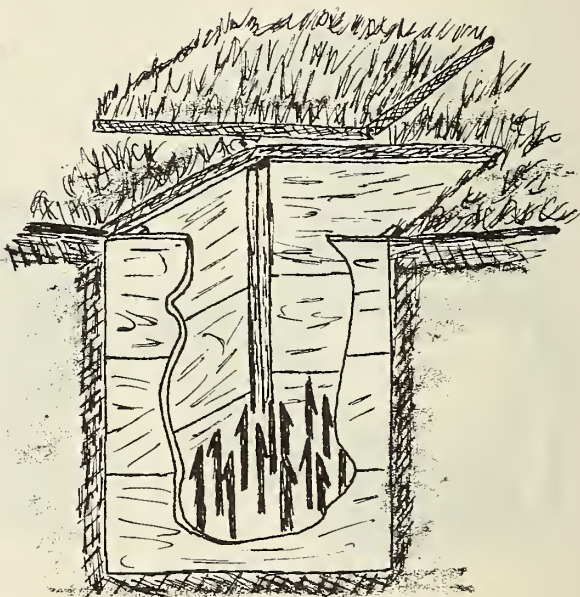
The Chicom LA 2B blasting machine is used to detonate all types of electrical blasting caps. It can detonate 10 blasting caps simultaneously.

CHARACTERISTICS

Case	Metal
Height	17.0 cm (7 inches)
Width	14.0 cm (5.5 inches)
Weight	2.7 kg (5.5 pounds)

SPIKE TRAP BOX

TOP



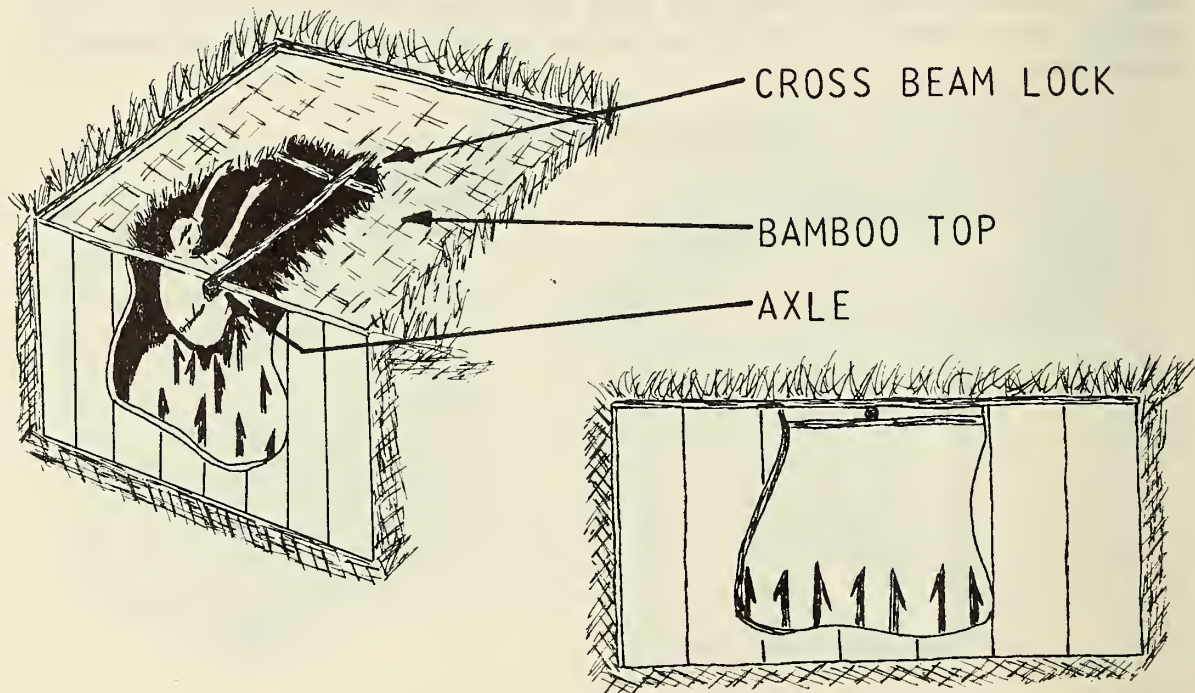
SPIKE TRAP BOX

This trap is a wooden box made of boards which are joined together with four corner posts. The box has a separate wooden top, but is bottomless. Barbed spikes are made of iron and placed in the bottom pointing upward. This trap is usually set up on muddy roads to provide favorable camouflage.

CHARACTERISTICS

Size 40 cm (15.7 inches) each side and
60 cm (23.6 inches) deep

SPIKE TRAP PIT



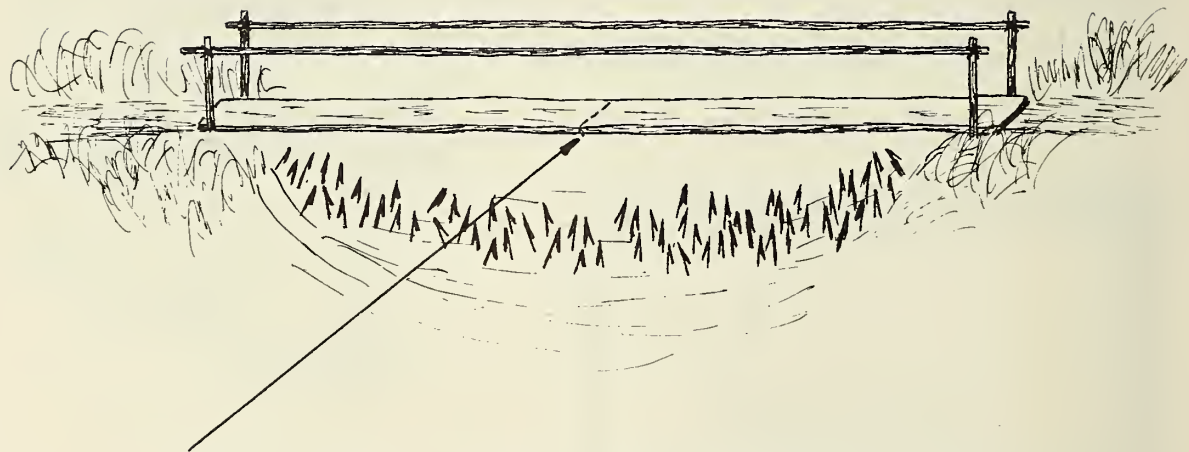
SPIKE TRAP PIT

A trap pit is a large trap box with a bamboo top. Stakes are made of bamboo and covered with tin barbed tips. Trap pits are usually dug at curves on high roads. When a man steps on a pit, he will fall into it and the top of the pit will turn on an axle to its former position. During normal periods (i.e. no operations are conducted in the area) the top of the pit will be locked with a cross beam so that it can be traversed without danger. When a man falls into the pit he will be injured by barbed stakes which cut his thighs and hips or stab him through the back.

CHARACTERISTICS

Size 4 meters (12.3 feet) each side
and 2.5 meters (8.3 feet) deep

TRAP BRIDGE

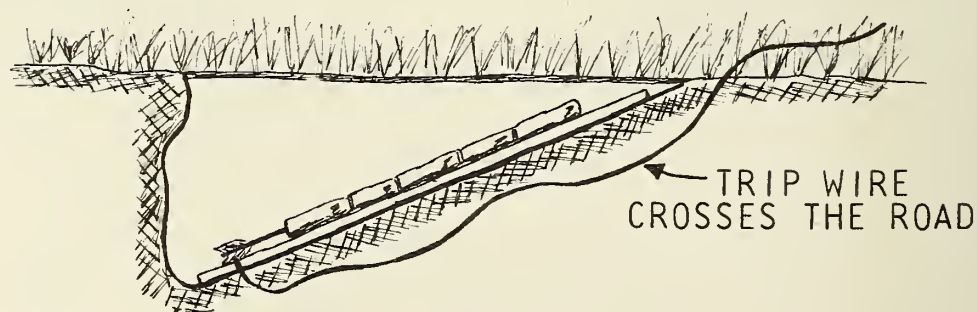
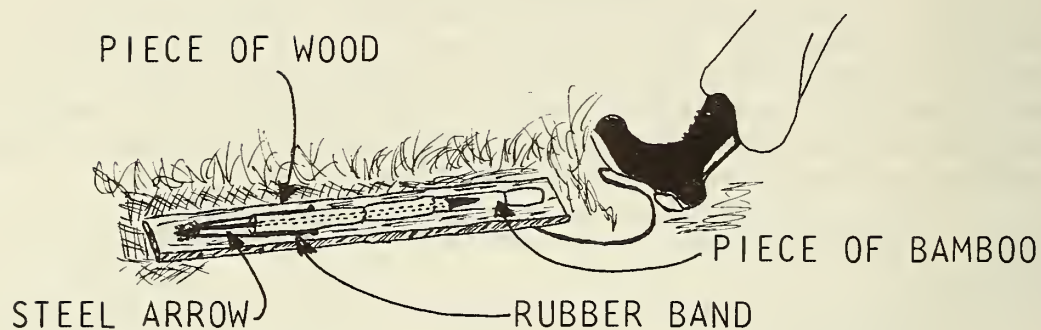


CUT AT THE MIDDLE AND COVERED WITH MUD

TRAP BRIDGE

A trap bridge is an old bridge across a ditch which is partially cut at the middle. These cuts are covered with mud. Barbed stakes are laid in the ditch. Sometimes the ditch is blocked at one end to retain the water so that the spikes cannot be discovered. If the ditch is not blocked, steel barbed spikes are driven into the ditch, level with the mud. Both sides of the ditch may be lined with spikes. Trap bridges are used to hinder the progress of search and clearing operations.

STEEL ARROW TRAP



STEEL ARROW TRAP

This trap has a barrel made of a piece of bamboo 1 meter long. It is fastened to a piece of wood with nails and wire. A 30 cm long steel arrow is placed in the piece of bamboo with a rubber band attached to the piece of wood. A catch to lock the rubber band is connected with a trip wire. The trip wire connected with the catch will be laid across a trail. When a man hits the wire, the latch will be disengaged and the rubber band will contract and push the steel forward to hit his stomach.

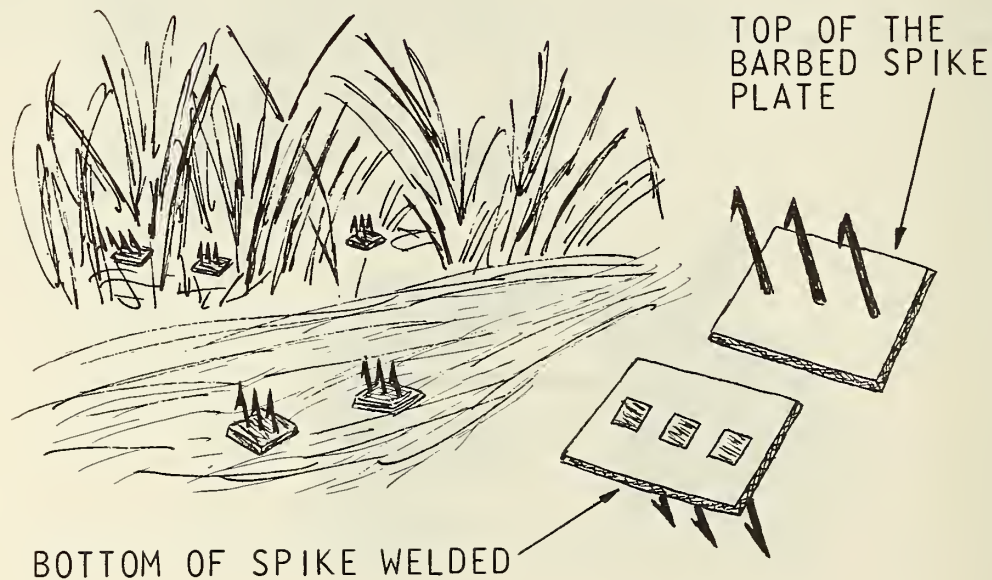
BAMBOO WHIP



BAMBOO WHIP

A bamboo whip is a piece of bamboo one or more meters long. A trip wire is used to bend the bamboo like a cross bow. One end of the bamboo is mounted with spikes. When a man hits the wire, the curved bamboo will strike him in the leg or stomach. Generally, the victim is hit suddenly and cannot take time to defend himself. Camouflage of the whip is difficult because of the length of the bamboo.

BARBED SPIKE PLATE



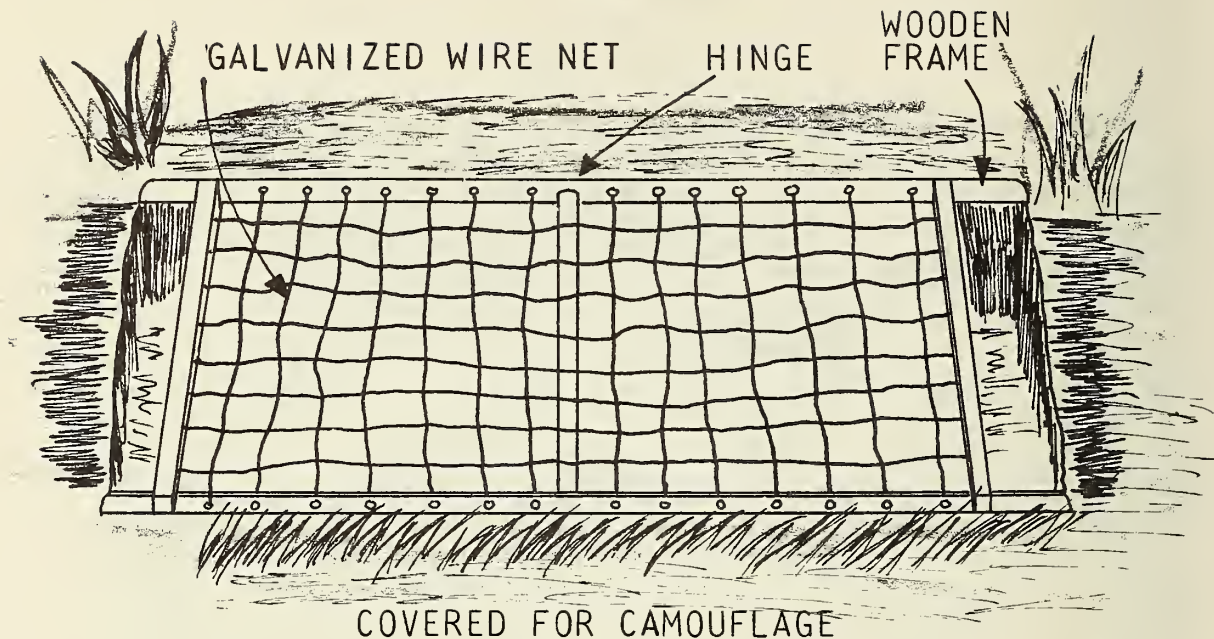
BARBED SPIKE PLATE

A barbed spike plate is made of two or more steel barbed spikes fastened to a piece of wood. The spikes are strongly fastened and are difficult to remove from the plate. When a man steps on the spike plate, the spike may penetrate through his shoe and foot. To remove the spike the barb must be cut off first.



POINTED BAMBOO STAKES

These stakes are made of bamboo and are pointed at one end. They are stuck into the ground and covered with grass. When a gun is fired or a grenade is thrown, troops jump to the roadsides and impale themselves on the stakes. These stakes are generally used along the road going into a village and in ambush sites.

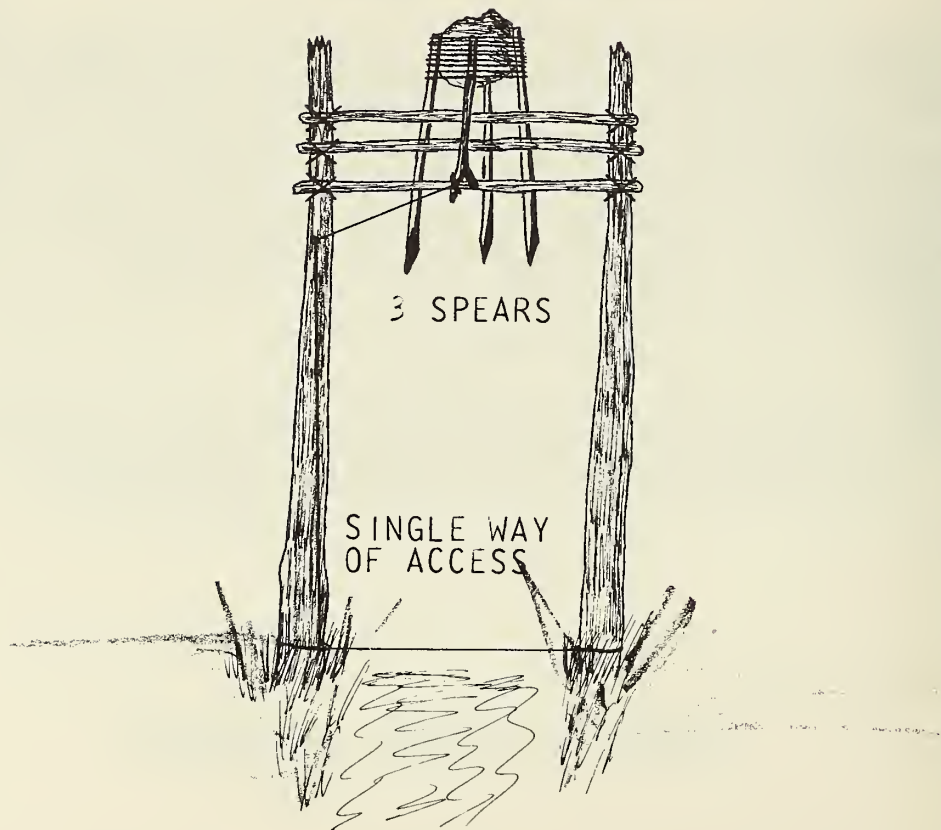


ROTATING SPIKED TRENCH

ROTATING SPIKED TRENCH

This trap has an "automatic cover". When the point member of the squad falls into the trap it closes itself, ready to trap others in the squad. The pit is much like a punji pit with the exception of the cover. A large galvanized wire net is fixed to a wooden frame and a piece of pipe or wood crosses the frame giving a see-saw effect over the pit. The top of the frame is well camouflaged to preclude discovery of the trap. When the trap is stepped on it will swing and throw the victim into the pit. It will return to its initial position, ready to operate again.

206
SPEAR TRAP



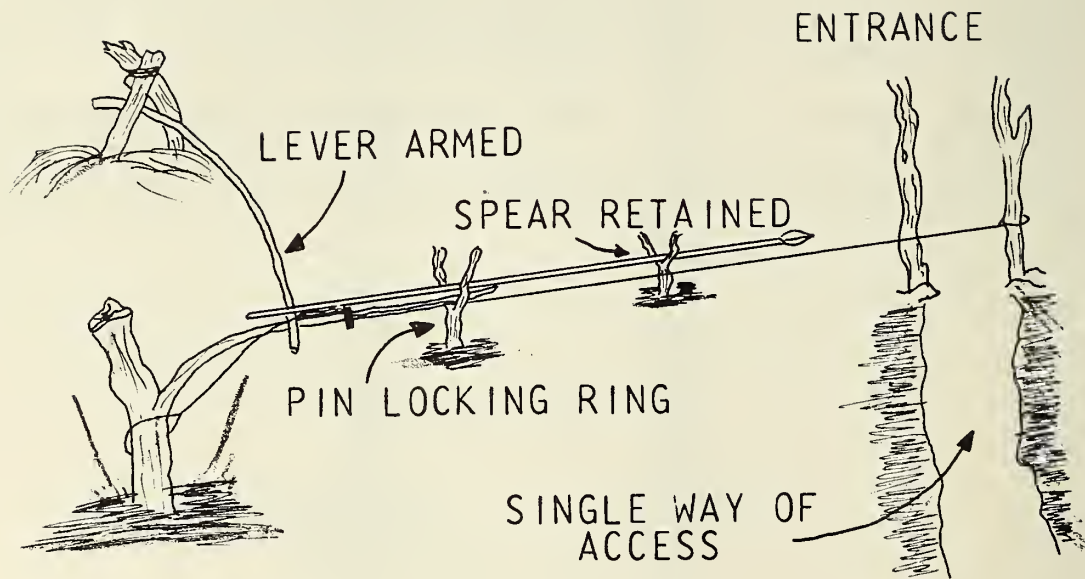
SPEAR TRAP

This trap is designed to be used in thick foliage utilizing a trip wire or string, three spears, and a rock. When the wire or string is pulled, the pin holding the spear in place is released and the spears (tied together at the top) fall on the object directly below. The rock is added to increase the pressure on the falling spears.

DISARM. Remove the rock and untie the spears, then cut the string.

CAUTION. Spear trap may be used in conjunction with spear launcher.

SPEAR LAUNCHER



SPEAR LAUNCHER

The throwing end of a spear is lashed to the free end of a horizontal bamboo or wooden whip. This arrangement is placed along-side a trail. When cocked, the free end of the lever or whip is bent away from the trail, and the spear is pointed toward the trail with the shaft resting within the forks of wooden guide stakes. The launcher is held in the cocked position by a wooden pin and a locking ring attached to the trip wire. The trip wire is extended from the locking ring across the trail and tied to a stake or tree directly in front of the spear. Pressure applied in any direction on the trip wire will release the locking pin and the spear will be launched, impaling anyone standing near the trip wire.

CARTRIDGE TRAP



NAIL OR FIRING PIN
(5MM)

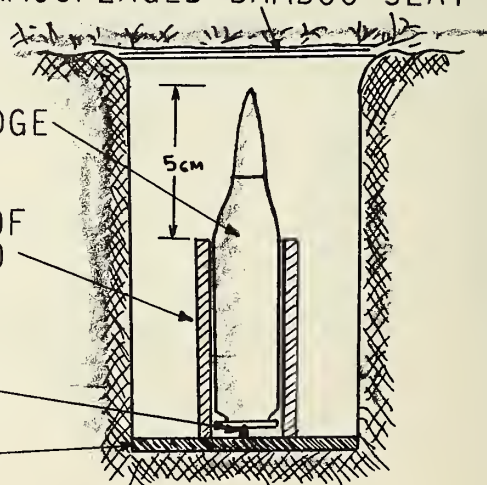
WOODEN BOARD

CAMOUFLAGED BAMBOO SLAT

CARTRIDGE

PIECE OF
BAMBOO

5cm

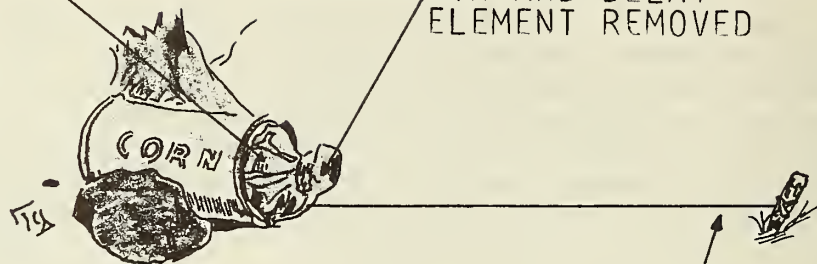


CARTRIDGE TRAP

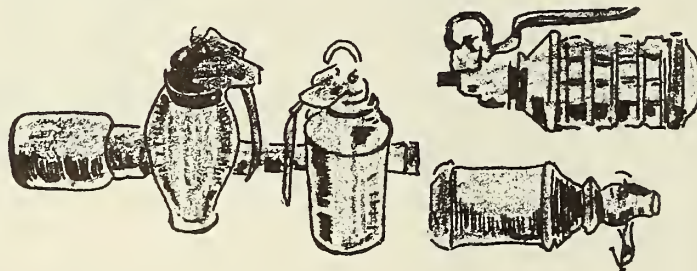
This trap consists of a piece of bamboo and a cartridge. A nail is driven into the bamboo 5mm from the bottom to act as a firing pin. A piece of wood is fastened to the piece of bamboo to hold the nail. The cartridge will protrude 5 centimeters from the bamboo. The primer of the cartridge is right above the head of the nail. When a man steps on this trap, the cartridge will hit against the nail, explode, and hit him. This trap is generally installed in the ground on the shoulder of a road and along paths.

INSERT GRENADE
DEEP IN CAN

HAND GRENADE, SAFETY
PIN AND DELAY
ELEMENT REMOVED



ATTACH ANCHOR WIRE TO FIXED OBJECT



TYPICAL GRENADES

GRENADE TRAP

There are several methods of employing grenades as boobytraps. The more common ones are given here, but the employment of this type of boobytrap is limited only by the user's ingenuity and the materials at hand.

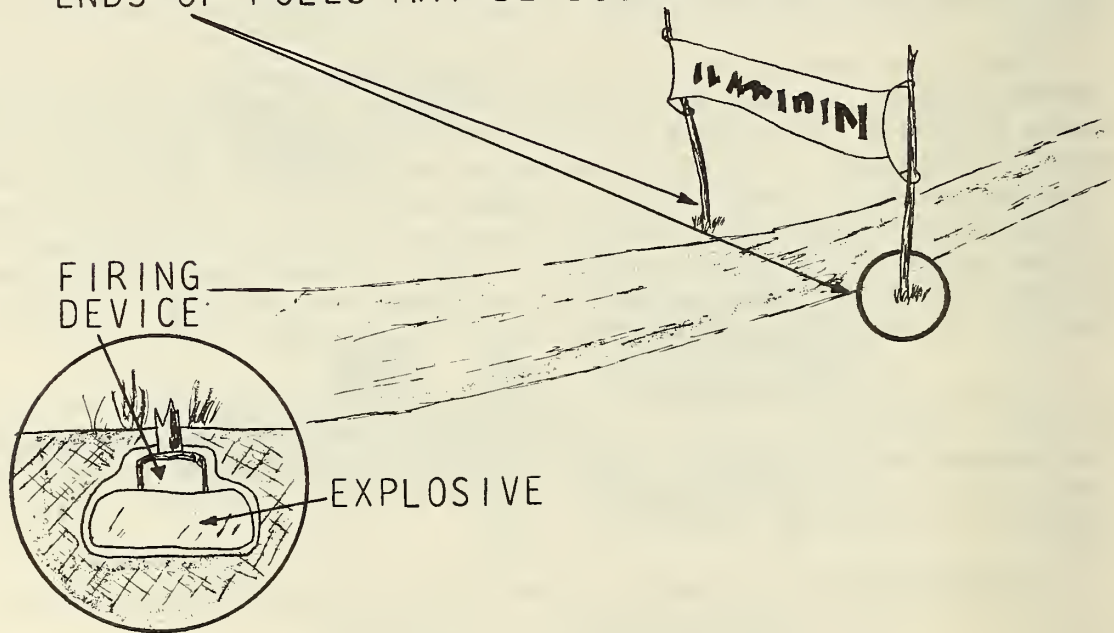
The illustration shows some typical grenades used and one of the most common devices. A grenade is placed in a can, the safety pin is removed and a trip wire is attached to the grenade. When the victim hits the trip wire, the grenade is pulled from the can and explodes. Normally a zero time delay fuze is used. Another common method is to weight the lever of a grenade with some object and pull the safety pin. When the victim picks up the object the grenade explodes. Tying a wire to the pull ring on a grenade and securing the grenade to an object is also used. When the victim hits the wire, the ring is pulled and the grenade explodes.

These traps are laid on both sides of routes that troops are likely to use. They have also been placed in hens' nests, bunches of bananas, low hanging coconut palms, orange trees, under boxes, tied to tree trunks, and at both ends of foot bridges. In the last case the hand rail can be rigged to a trip wire.

GRENADE TRAPS ARE COMMONLY ENCOUNTERED IN AREAS VACATED BY THE VC.

VC BANNER ACROSS ROAD

ENDS OF POLES MAY BE BOOBYTRAPPED OR MINED



VC BANNER

This is a boobytrap that is very effective. On the surface it appears to be a VC banner stretched between two poles. However, the ends of the poles are attached to firing devices such as the pull or pressure-release types. When a soldier tries to pull up the poles to tear down the banner, the explosive charges are detonated. This type of trap must be carefully approached because the area around it may also be mined.

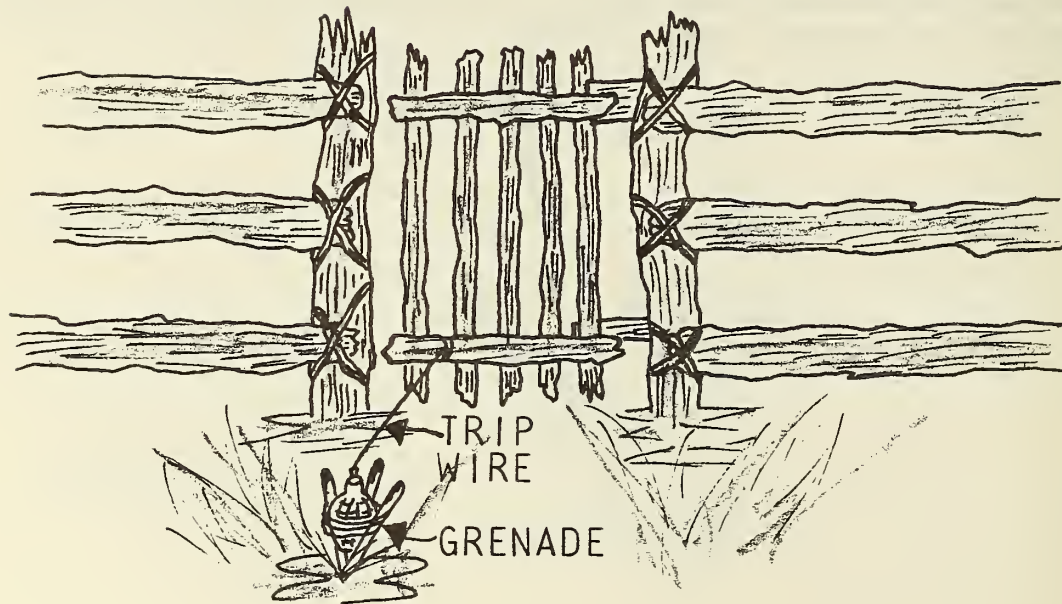
PORTABLE CONCRETE AND STEEL PUNJI TRAP



BOOBYTRAPPED PUNJI STICKS

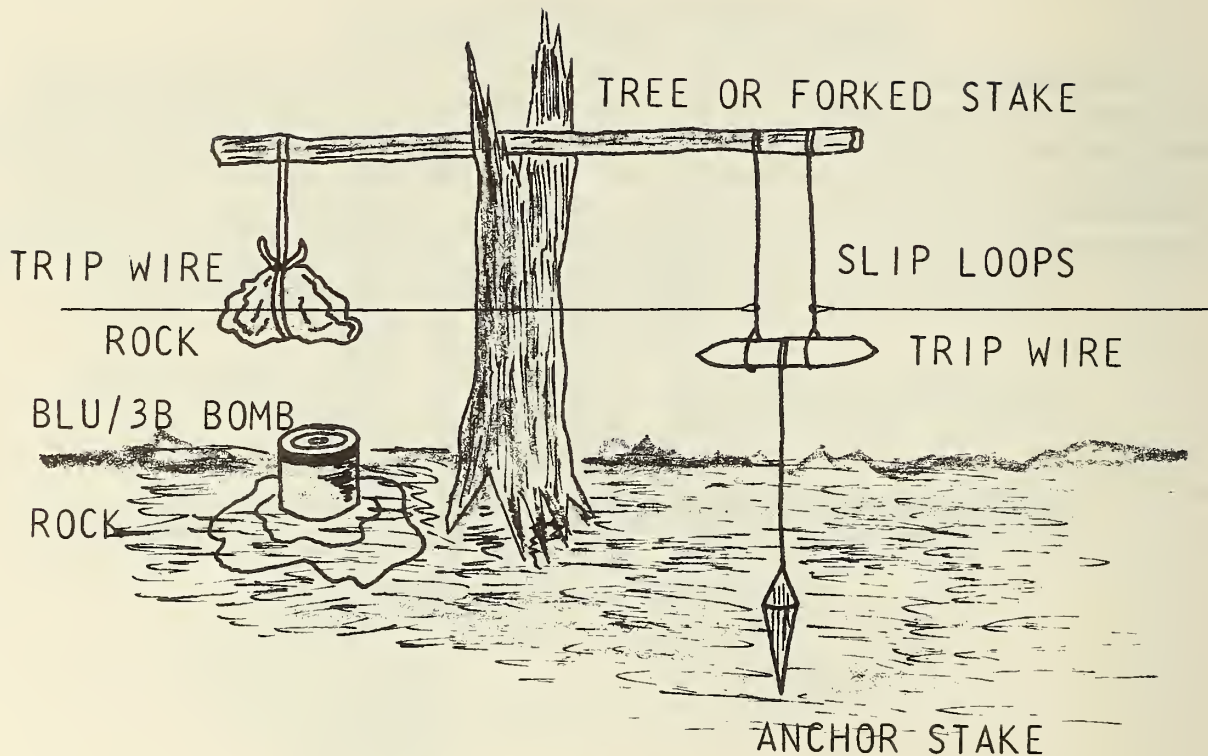
Punji sticks are embedded in cement or a heavy metal block and placed in a camouflaged hole. A pressure release fuze is attached to a grenade or demolitions and placed under the block holding the punji sticks. By removing an injured man from the hole and picking up the block, the pressure release fuze detonates the grenade or demolitions.

BOOBYTRAP GATEWAY



BOOBYTRAP GATEWAY

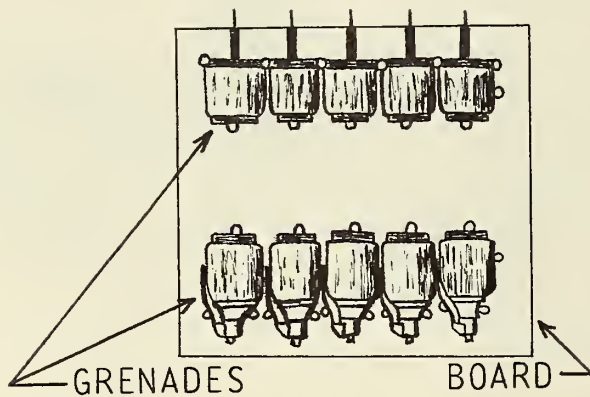
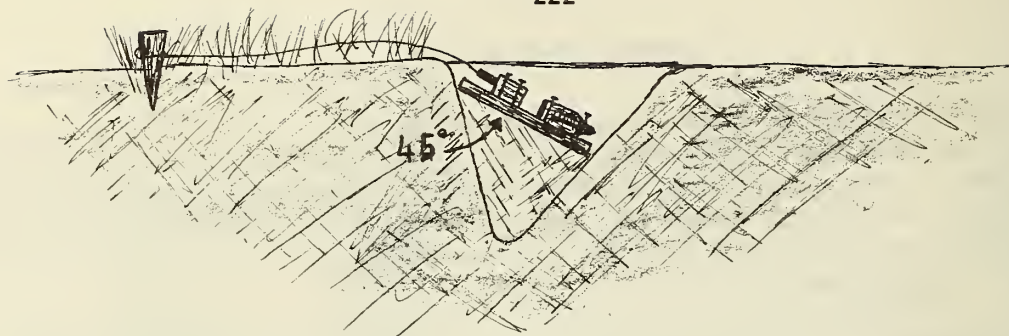
A grenade is buried just below the surface of the ground and a short trip wire is attached from the gate to the ground. The grenade detonates when the gate is opened. Where a pressure release fuze is used, the grenade and fuze are placed directly under one of the uprights of the gate. The grenade detonates when the upright is moved in any direction. If there is heavy growth around the gate, the grenade will usually be hidden in the growth.

**BOOBYTRAPPED BOMBLET**

BOOBYTRAPPED BOMBLET

A rock is placed under a bomblet to provide a solid base. An anchor stake is driven into the ground on the opposite side of the tree trunk for a tie down. The slip loops indicated in the drawing are loose; a pull on either trip wire will cause the string loop to slide off the short cross bar. This will allow the long bar to tip down, dropping the rock onto the exposed striker of the bomblet.

DISARMING. Carefully remove the rock from the horizontal stake. Destroy bomb in place.

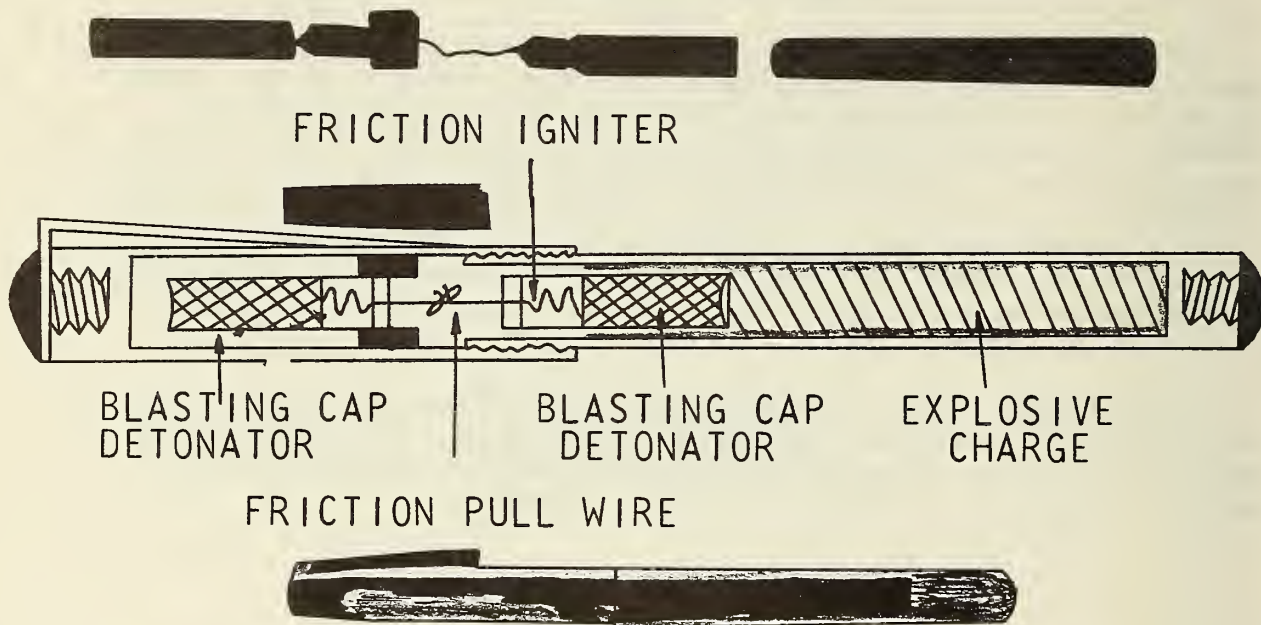


GRENADE LAUNCHER

GRENADE LAUNCHER

A hole is dug 60 cm in diameter and $3/4$ meter deep in a funnel shape. A TNT charge of approximately 3 pounds is placed in the bottom of the hole. The charge is capped and lead wires extend along the ground. The charge is then tamped with dirt within four inches of the top of the hole. A board 60 cm (24 inches) square and 5 cm (2 inches) in thickness is placed over the hole. Nails are driven into the board 7 cm (3 inches) apart and grenades are placed between the nails which act to hold the spoons (handles) in place as the safety pins are pulled. Lead wires are attached and run to a place of concealment, from which the device is command fired.

FUNCTIONING. When a helicopter is about 120 meters (approx. 130 yards) from the launchers, the charge is detonated. The grenades are tossed from 120 to 150 meters into the air within a perimeter of 120 meters. The device is also used against troops.



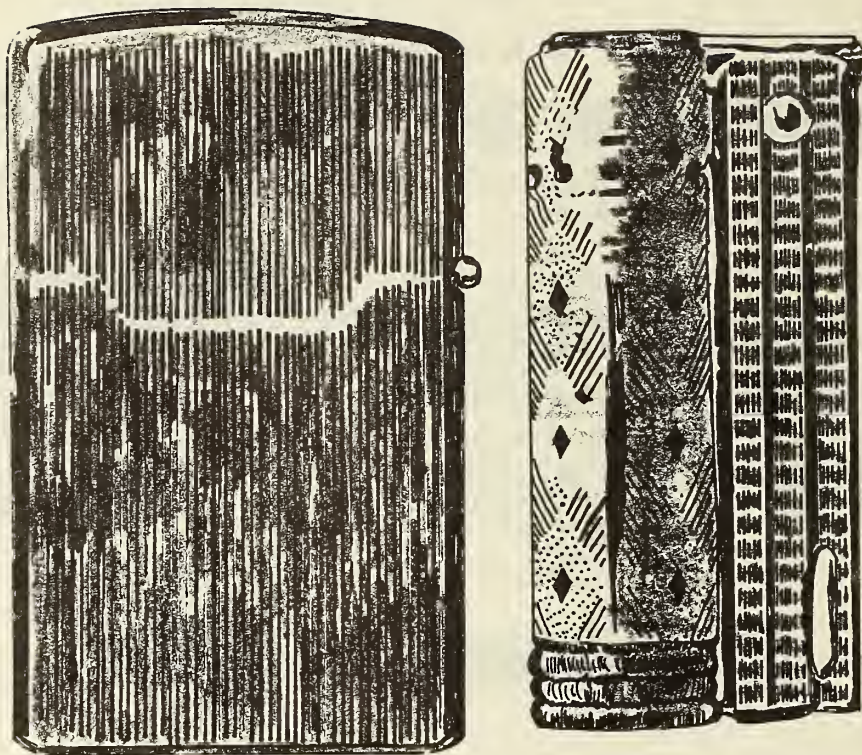
FOUNTAIN PEN SABOTAGE DEVICE

FOUNTAIN PEN SABOTAGE DEVICE

This device is constructed from a fountain pen. It consists of an explosive booster, two blasting caps, and two friction igniters. The explosive components and ignition device are contained in the ink bladder housing and in the cap of the pen.

FUNCTIONING. This device will explode if the cap is removed. Removal of the cap will extract the friction pull wire from the friction cup in the cap, bladder housing, or both, sending a flash into the detonators and exploding the device.

DISARMING. DO NOT ATTEMPT TO DISARM THIS DEVICE. Destroy it in place or notify explosive ordnance disposal personnel.



**CIGARETTE LIGHTER
ASSASSINATION DEVICE**

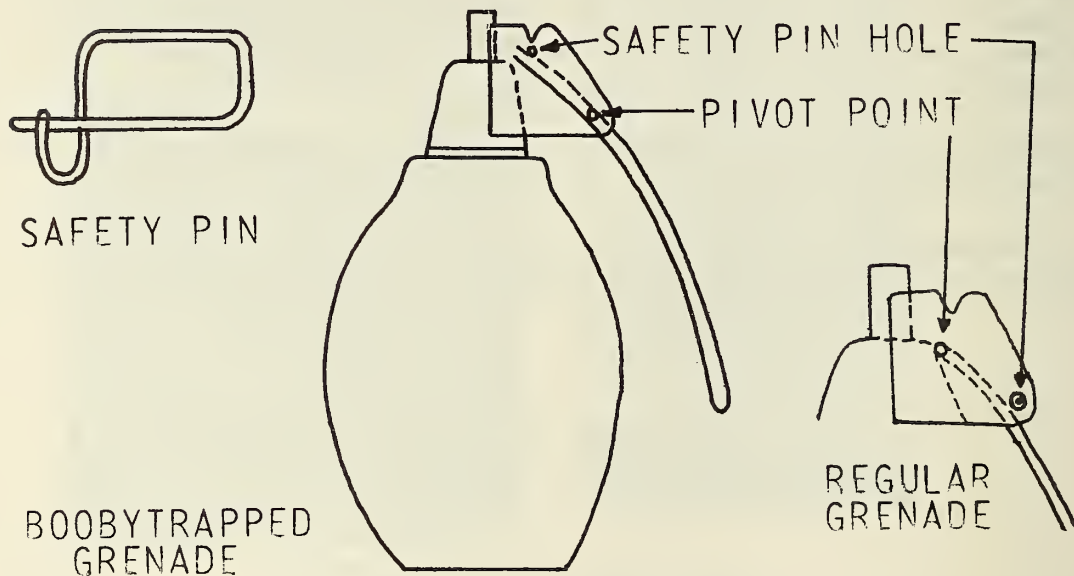
CIGARETTE LIGHTER ASSASSINATION DEVICE

This device looks like a common cigarette lighter sold commercially in the Republic of Vietnam. The explosive device is in the fluid compartment and is composed of a detonator and an explosive charge. The detonator is cotton saturated with flammable powders and is placed on the same level as the flint. The explosive is below it in the fluid compartment.

FUNCTIONING. Striking the flint ignites the detonator which sets off the explosive charge.

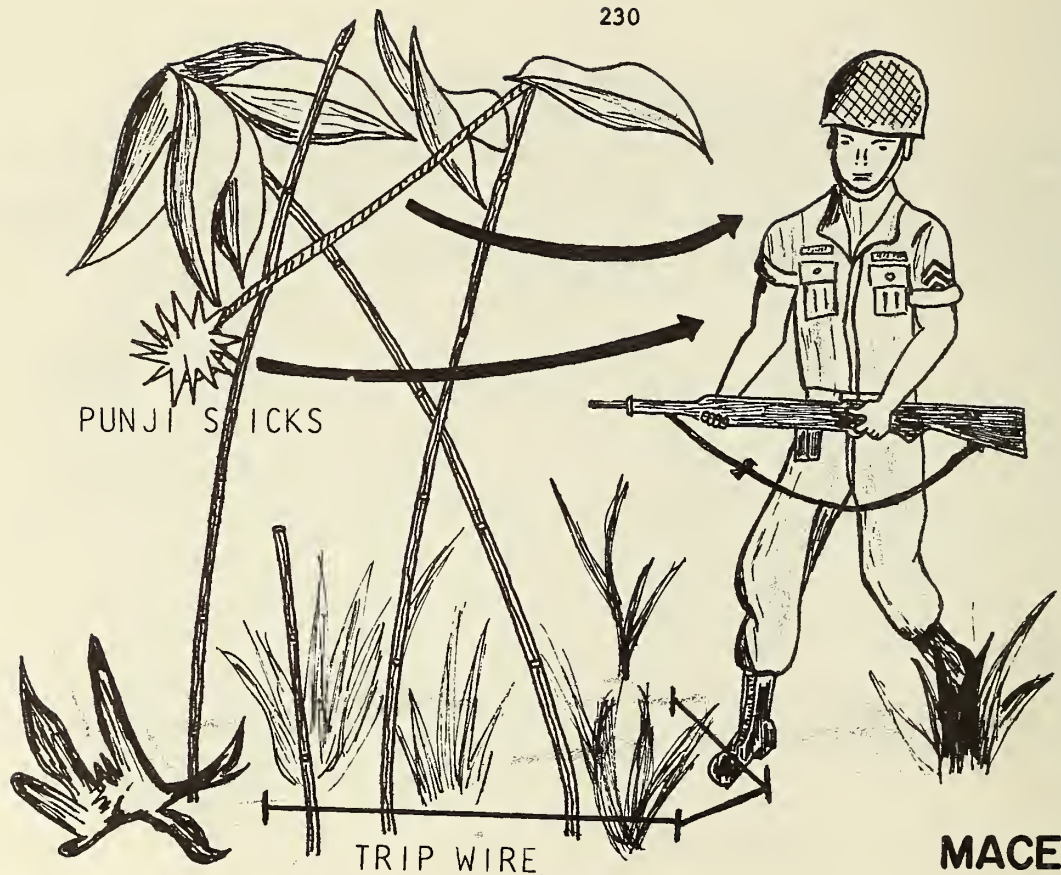
DISARMING. DO NOT ATTEMPT TO DISARM THIS DEVICE. Destroy it in place or notify explosive ordnance disposal personnel.

VC BOOBYTRAP GRENADE



VC BOOBYTRAP GRENADE

This is a manufactured boobytrap grenade that resembles a standard fragmentation type hand grenade, except that the safety pin and the pivot pin have been reversed. This grenade will detonate when the safety pin is removed and pressure is applied to the handle.

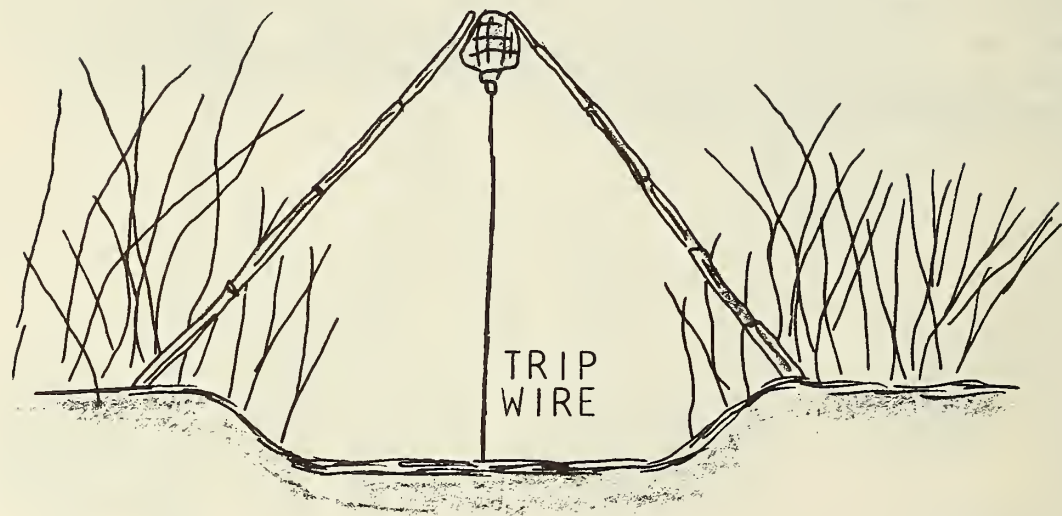


THE MACE

This device functions similarly to a pendulum. A rock $\frac{1}{4}$ to $\frac{1}{3}$ m in diameter is armed with 80 to 100 sharpened punji sticks to create a massive "pin cushion" or "mace." The armed rock is suspended about nine meters high in the jungle canopy in the cocked position by a single stick-and-vine trigger. The action is triggered when a taut vine stretched across the trail is tripped. Movement of the trip wire allows the stick-and-vine trigger to free the rock. Gravity does the rest as the "mace" clears a wide swath in the jungle trail, killing or wounding elements in the point squad.

BAMBOO ARCH

HAND GRENADE

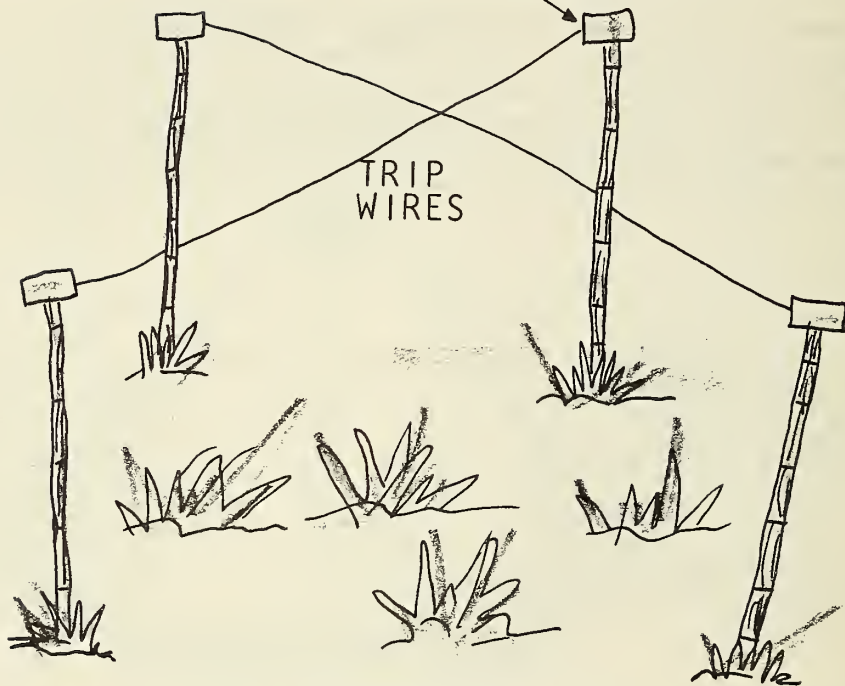


BAMBOO ARCH

A grenade is secured at the top of a bamboo arch and a trip wire is secured to the grenade. Any contact with the trip wire will detonate the grenade. The location of the grenade achieves a large casualty radius. At night, this is employed most effectively as a warning device. During the day the trip wire is loosened from the ground and wrapped around the bamboo arch to allow use of the path by the Viet Cong.

HAND GRENADE INSIDE
TIN CAN

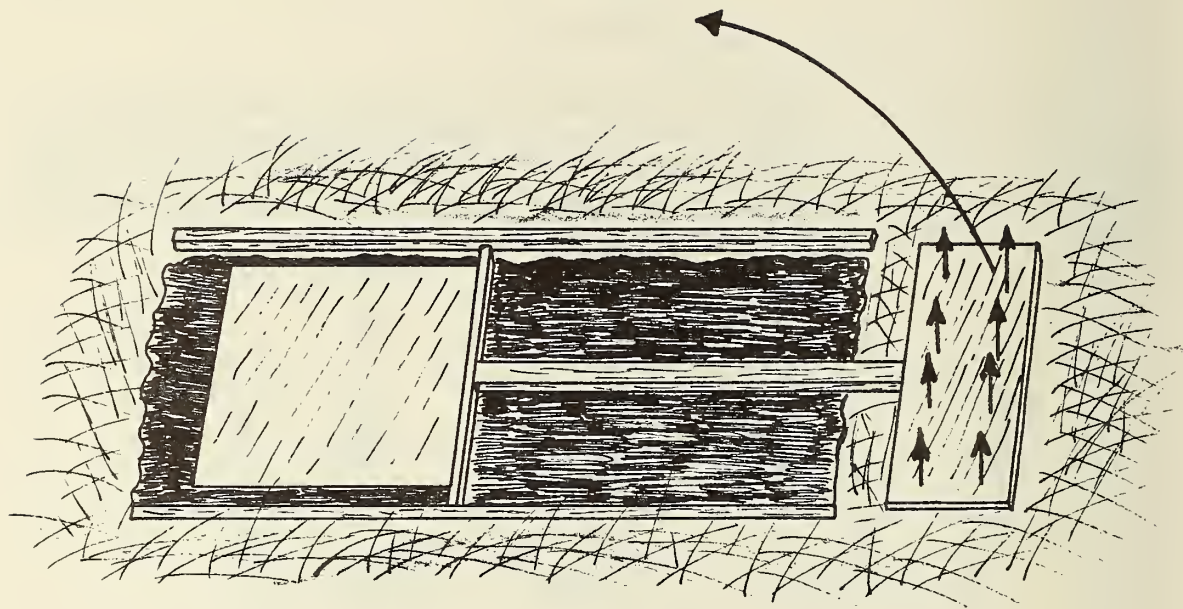
TRIP
WIRES



HELICOPTER TRAP

HELICOPTER TRAP

Bamboo poles are placed in the ground with a tin can attached to the top of each pole. Hand grenades with safety pins removed are placed inside the cans. Trip wires are attached to the grenades from one pole to another in an "X" pattern. The grenades drop to the ground and detonate when a helicopter touches the trip wires.

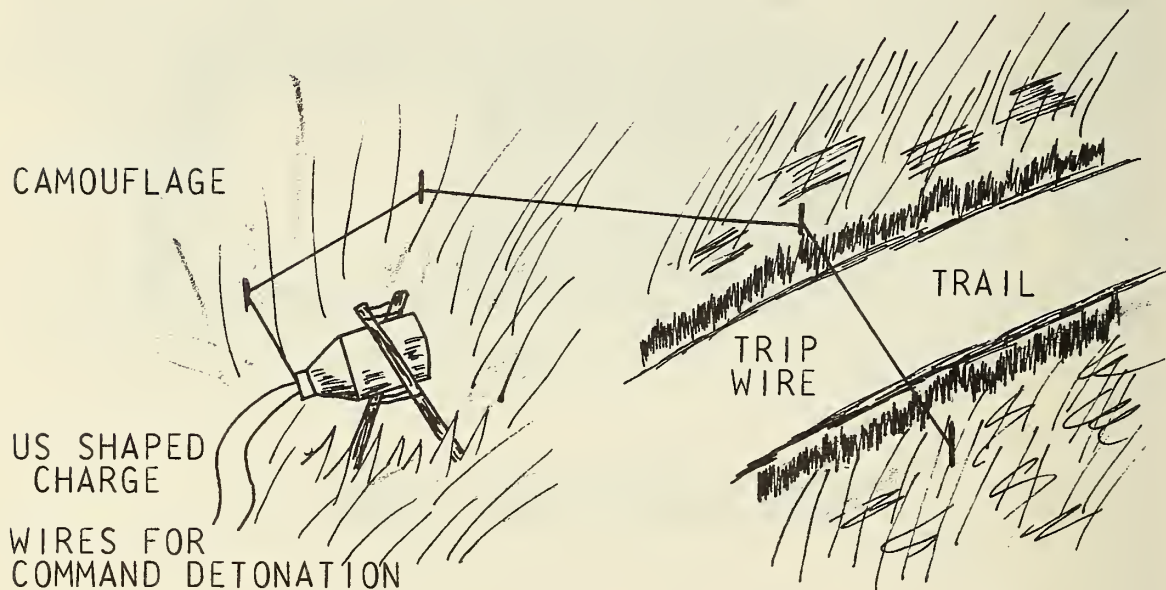


FACE KNOCKING TRAP

FACE KNOCKING TRAP

This trap will hit and impale the victim's face. A wooden board is fixed to each end of a 1 $\frac{1}{2}$ m long piece of wood. Spikes are planted on one third ($\frac{1}{3}$) of its length (near the non-spiked board). Another piece of wood passes through the hole. The board is placed at one end of the trap opening. When the victim steps on the non-spiked board, it will swing downward throwing the victim into the trap. At the same time, the spiked board will be projected into the victim's face.

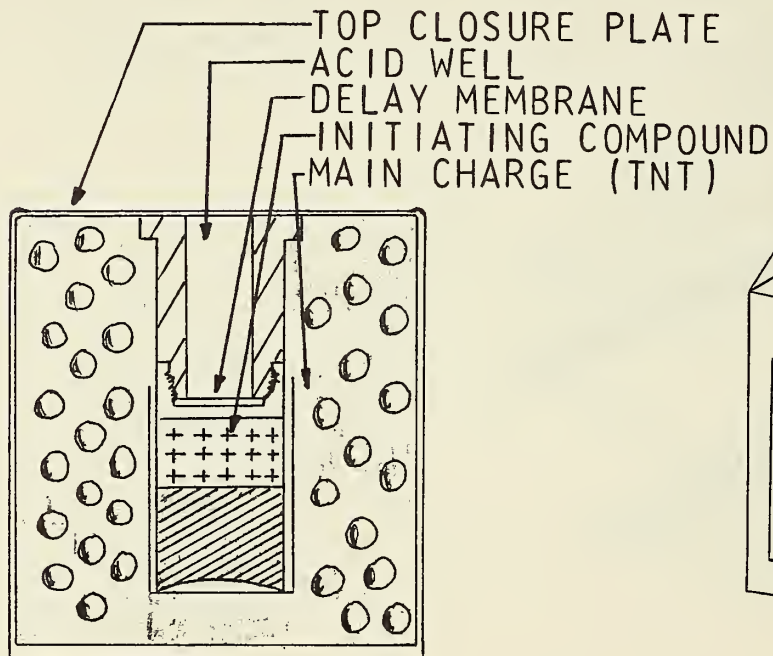
COMMAND DETONATION OR TRIPWIRED SHAPED CHARGE



COMMAND DETONATION OR TRIPWIRED SHAPED CHARGE

A U.S. shaped charge which can be detonated on command or by tripwire is placed covering a trail. The shaped charge is tied to a tripod slightly above ground and facing toward the trail. It is then detonated on command from some distance away or by the tripwire placed in the line of fire of the charge.

CIGARETTE PACK ANTIPERSONNEL BOMB



CIGARETTE PACK ANTIPERSONNEL BOMB

This device has an outward appearance of a cigarette pack. It employs acid, ball bearings and TNT.

FUNCTIONING. A metal container is placed inside a cigarette pack and filled with a fuze and ball bearings. Acid is poured into the top of the fuze and it eats away a delay membrane. When the acid meets the initiation compound it detonates the compound and a booster explosive, causing the main charge to detonate.

DISARMING. DO NOT DISARM. Place it under sandbags and allow it to detonate.

GRENADE SABOTAGE DEVICE

This device is placed in the fuel tank of a vehicle. It consists of a hand grenade wrapped in adhesive tape with the safety pin removed.

FUNCTION. The adhesive tape is wrapped around the handle of the grenade. The safety pin is pulled and the grenade is put into the fuel tank of a vehicle. The fuel in the tank softens the adhesive to the point where the tension of the grenade handle will overcome the resistance of the tape. The handle flies off and the grenade is detonated. Supplemental coil springs are placed beneath the grenade handle to assist the fuze spring in overcoming the resistance of the tape.

DISARMING. DO NOT ATTEMPT TO DISARM. Evacuate the area until the grenade detonates.

VC/NVA MINE DETECTION CAPABILITY AND EQUIPMENT

CAPABILITIES. CHICOM manufactured mine detectors are in the possession of NVA units in the Republic of Vietnam. Training documents indicate a reliance on the simpler methods of detection, such as the use of picks, pick mattocks and various types of issued or locally manufactured probes.

EQUIPMENT. Various types of Soviet equipment have been provided to Communist bloc countries since World War II, and we may assume that some of these detectors have been acquired by the NVA and possibly by the VC. The CHICOM equipment described in this booklet is known to be in the possession of the NVA. The following types of mine detectors are available:

1. US SCR 625. Possibly captured from the French. Capable of detecting buried metallic mines to a depth of 13.8 inches.
2. CHICOM Type 55-625. Operation and physical characteristics similar to the Soviet VIM 203M.

3. SOVIET VIM 203M. Reported detection range up to 12 inches for metallic mines

4. SOVIET VIM 625 and VIM 695. Estimated detection range of 10 to 12 inches.

5. SOVIET VIM 210. Depending on type of mine, detection range is from 9.5 to 19.5 inches.

6. Soviet "search spade" detector with a claimed range of up to 10 feet.

SOVIET VIM 203M

The Soviet VIM 203M World War II metallic mine detector operates on the beat frequency oscillation principle and employs two tubes. Two models of this detector are in existence, one using a rectangular search coil and the other using a circular coil. Both models are similar in operation and can be mounted either on a search handle or a rifle. However, the latest version of the circular model, described below, is slightly heavier and has a higher "A" battery voltage, a longer continuous operating life (30 hours), and a reported detection range of 8 to 12 inches for buried metallic mines.

CHARACTERISTICS

Detector head assembly . .	15" diameter circular search coil; weight 14.5 lbs.
Search handle	6 ft, 3-section metal or wooden pole, or a rifle.
Tuning box	Contains two oscillator-amplifier tubes; mounted on search handle.

Power supply Case contains an "A" battery of three 1.5-volt dry cells and 60-volt "B" battery; carried in haversack; weight, 11.9 lbs.

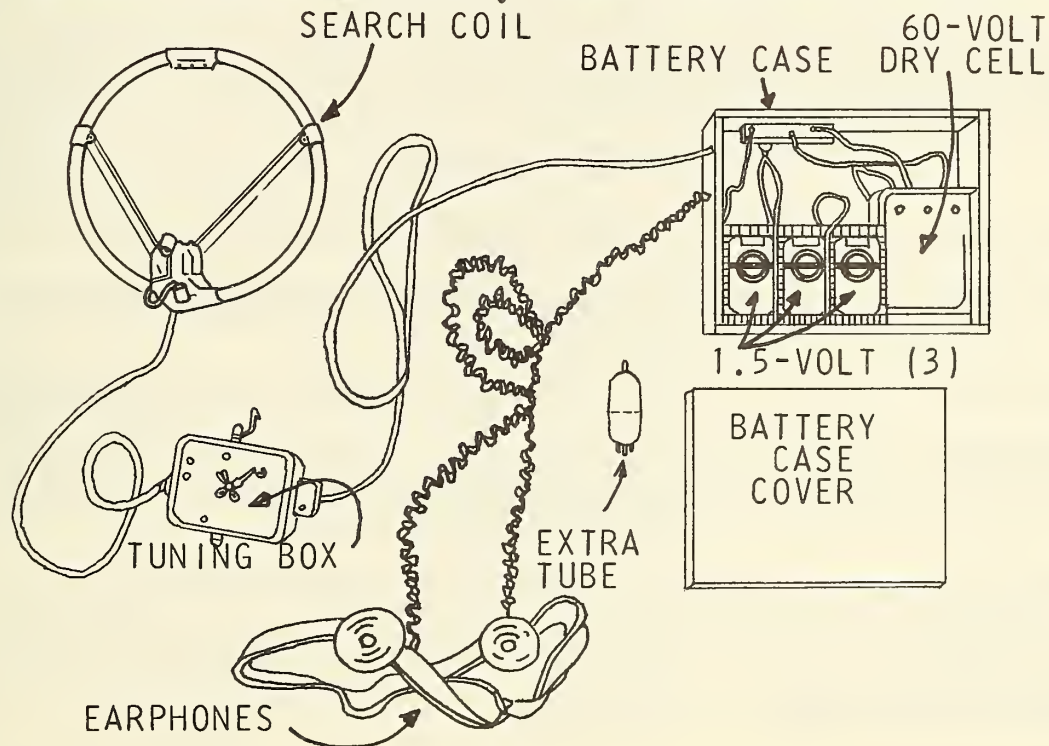
Controls Tone regulator located on tuning box.

Aural indicators Headphones.

Carrying case Disassembled detector packed in the same haversack as the power supply.

Total weight 26.4 lbs.

MINE DETECTOR, VIM 203M (USSR)



CHICOM TYPE 55-625

The CHICOM mine detector is a copy of the Soviet VIM 203M mine detector with the exception of weight and some dimensions. The operating characteristics are similar.

CHARACTERISTICS

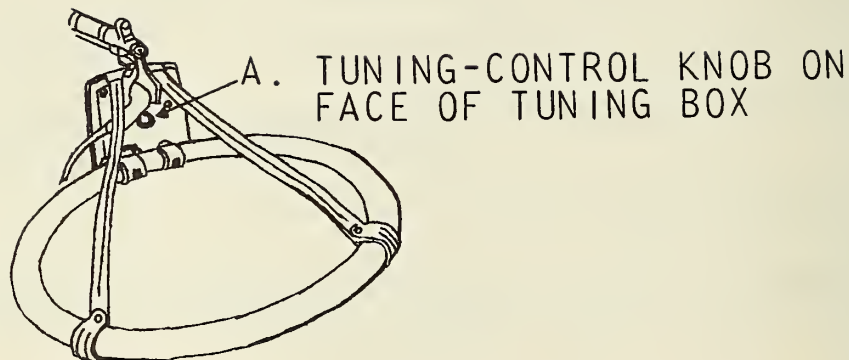
Detector head assembly . .	13 5/8" diameter search coil; weight 2.5 lbs.
Search handle	59" long, 3-section wooden pole, or rifle; weight, 1.5 lbs.
Tuning box	Mounted on search handle; contains two tubes.
Power supply	Case contains "A" battery of 1.5 volts and a 60-volt "B" battery; carried in a pack; estimated weight, 9.5 lbs.
Controls	Tone regulator located on tuning box.
Carrying pack	Holds power supply and disassembled detector.
Estimated total weight . .	15.75 lbs.

SOVIET VIM 625, MODEL 1942 and VIM 695, MODEL 1942

The World War II electronic mine detectors, VIM 625 and 695, were produced for the purpose of locating metallic mines. Both models are identical. Although only one-tube circuits are used, a detection sensitivity comparable to other Soviet detectors is claimed. In physical appearance they are very similar to the Soviet VIM 203 detector. Both detectors were designed to be mounted on rifles.

CHARACTERISTICS

- Detector head assembly . . . Either rectangular or circular (15" dia)
rubber-insulated search coil; 13.2 lbs.
- Search handle Rifle.
- Tuning box Mounted either on search handle or on de-
tector head assembly; one oscillator-ampli-
fier tube.
- Power supply Wet cell(s), 2.8 volts; dry cell, 60 volts;
11.2 lbs.; 10 hours continuous service.



**MINE DETECTORS VIM 625
AND VIM 695, MODELS 1942**

Controls Tone regulator is centered on side of
tuning box opposite to operator.

Aural indicators Headphones

Carrying case Contains the power supply and detector.

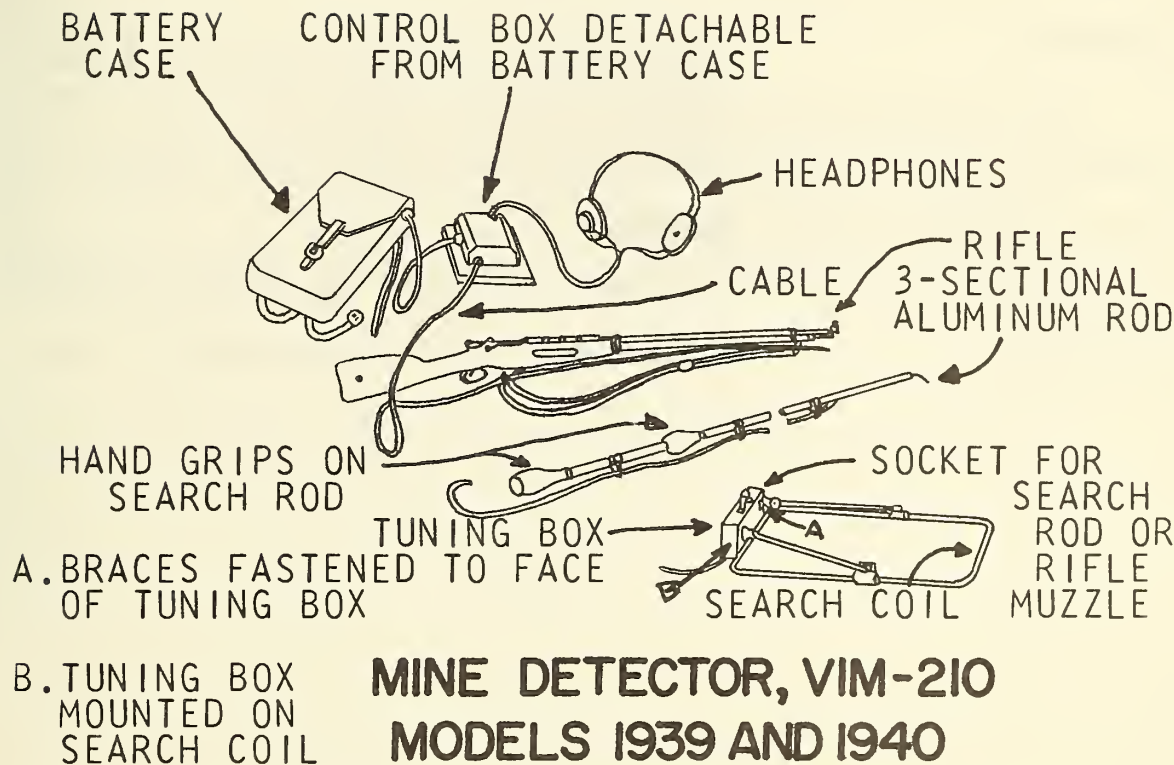
Total weight 24.4 lbs.

SOVIET VIM 210, MODELS 1939 and 1940

The World War II electronic mine detector VIM 210 was produced to detect metallic mines. Both models work on the beat frequency oscillation principle. They are identical in their detection ranges, as measured from the search coil to the exposed mine on the ground. The ranges are: Metallic fuze, 2 inches; S-mine, 9.5 to 11.5 inches; teller-mine, 17.5 to 19.5 inches. The major differences between the two models are in the location of the tuning box, weights of batteries, and head assemblies.

CHARACTERISTICS

Detector head assembly	Rectangular search coil 17.7" by 9.8"; 16.8 lbs. (1939); 15.2 lbs. (1940).
Search handle	3-section aluminum rod or rifle.
Tuning box	Mounted either on detector head assembly or on search handle; contains two oscillator- amplifier tubes.



**MINE DETECTOR, VIM-210
MODELS 1939 AND 1940
(USSR)**

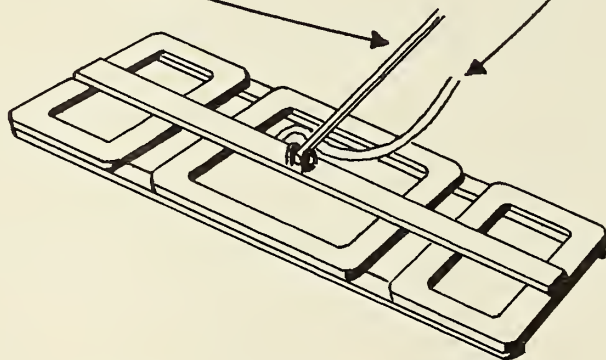
Power supply	Case contains one 1.2-volt wet cell and one 60-volt dry cell; 8.4 lbs. (1939); 11.4 lbs. (1940); continuous operating life, 24 hours.
Controls	On-off switch; tone regulator on tuning box.
Aural indicators	Headphones.
Carrying case	2 haversacks for Model 1939, 1 for Model 1940.
Total weight	Model 1939, 26.2 lbs.; Model 1940, 26.6 lbs.

SOVIET THREE-SEARCH-COIL TYPE

The three-search-coil electronic mine detector, which came into use about 1945, was produced to detect metallic mines. The detector head assembly differs markedly in shape from that of other Soviet mine detectors. It consists of three separate rectangular coils arranged side by side. This detector cannot be rifle mounted, and the tuning box, usually fastened to the search handle, may be carried in the shoulder haversack.

LACK OF TUNING BOX
ON SEARCH COIL

TWO SMALLER COILS ON EITHER
SIDE OF THE LARGE RECTANGULAR
COIL



MINE DETECTOR THREE SEARCH COIL TYPE

CHARACTERISTICS

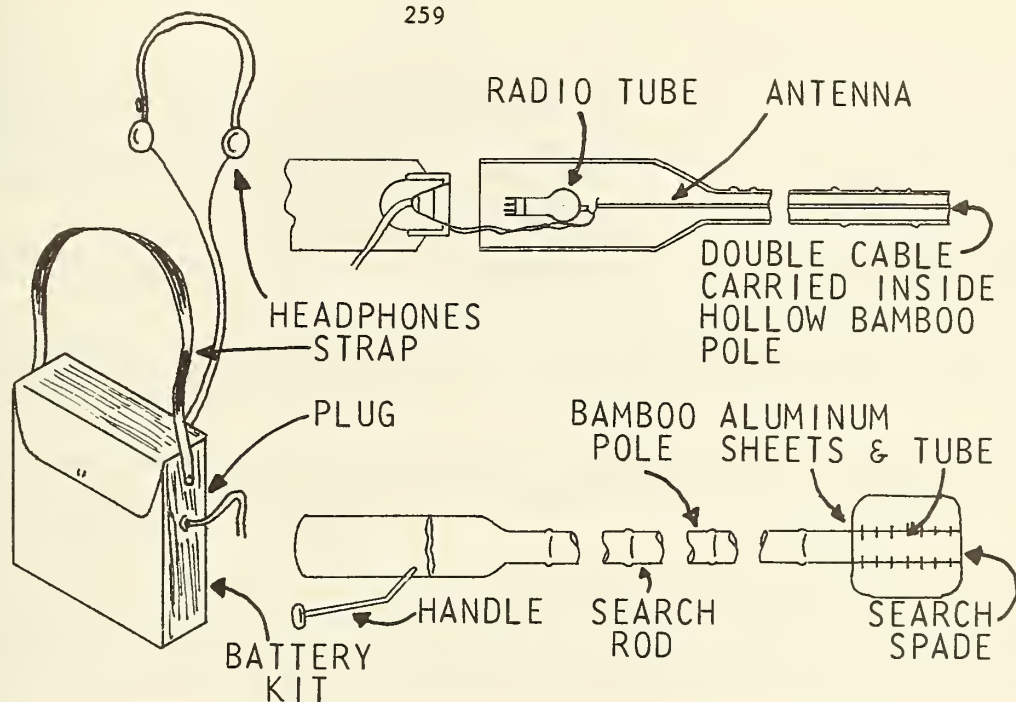
- Detector head assembly . . Three separate rectangular search coils
(two small coils mounted on either side
of a large coil).
- Search handle Sectional pole.
- Tuning box Contains oscillator-amplifier tube(s)
and is located either on the search handle
or in the shoulder haversack.
- Aural indicators Headphones.

SOVIET MINE DETECTOR WITH "SEARCH SPADE"

This mine detector, equipped with a spade shaped head, makes a definite departure from the appearance of conventional Soviet detectors which employ either a circular or rectangular search head. The detection range for buried metallic objects is claimed to 10 feet, which is most likely exaggerated. But with allowances made, the claim would tend to indicate that this detector has a greater range than other known Soviet detectors.

CHARACTERISTICS

- Detector head assembly . . Overall dimensions, 11.8 by 8.3 inches; consists of a perforated aluminum tube 11.8" long and 1.5" in diameter and two folding plates of aluminum. A neon tube serves as a control lamp in the perforated aluminum tube.
- Search handle 2-section 79" hollow bamboo rod.
- Tuning box Consists of tube attachment at top of search handle, 27.2" long and 4" in diameter; circuit contains one oscillator-amplifier tube.



SOVIET MINE DETECTOR WITH "SEARCH SPADE"

Power supply Battery kit with carrying straps; contains
one 90-volt dry cell and one 6-volt wet cell.

Controls Plugs for attached headphones and search rod
on side of battery kit.

Aural indicators Headphones.

GLOSSARY

Anti-lift device - A mechanism used in boobytrapping that fires an explosive when the primary object is lifted.

Anti-tilt device - A mechanism used in boobytrapping that fires an explosive when the primary object is tilted.

Area clearance - A non-combat operation involving the removal or destruction of mines and boobytraps, normally taking place after enemy forces have been driven from the area.

Arming - The removal of safety devices or preparation of firing mechanisms so that an explosive device is changed from a safe condition to a state of readiness to explode.

Blasting cap - A small, thin-walled cylindrical case containing a sensitive explosive such as mercury fulminate or crystalline PETN. It is used as a detonator to set off another explosive charge. There are two types in military use, one fired by an electrical current and the other fired by flash from a safety fuse or percussion cap.

Booster - A high explosive element, sufficiently sensitive to be actuated by a small explosive element in a fuze or firing device, and powerful enough to cause detonation of a main explosive charge.

Defuzing - Removing a fuze or firing device from a mine or boobytrap.

Delay element - A device installed in a fuze or firing device to delay firing.

Detonator - A high explosive element used in an explosive train to create or transmit a detonation wave to a booster or to a main charge of high explosives.

Disarming - Making explosive items safe by proper replacement of all safety devices or by removal of fuzes or other initiating elements.

Firing device - A mechanism used to initiate a train of fire or detonation in boobytraps, mines or demolition charges. It is generally a separate item of issue. When fitted with a non-electrical blasting cap it may be used as a mine fuze or anti-lift device or to set off prepared explosive charges.

Fuse (time or safety) - A flexible, waterproofed fabric tube containing a filler of black powder that transmits a flame to fire an explosive charge or non-electric blasting cap. Burning slowly at a uniform rate, the safety fuse allows a person firing a charge to reach a safe place before detonation occurs.

Fuse lighter - A device used to ignite a safety fuse.

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